

Personal guide for:

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Messe
Düsseldorf

glasstec

INTERNATIONAL TRADE FAIR FOR GLASS
PRODUCTION • PROCESSING • PRODUCTS

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Exhibitors

A.W.T. World Trade Inc.

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Phone	+1 773 777-7100
Fax	+1 773 777-0909
Internet address	www.awt-gpi.com
E-Mail	sales@awt-gpi.com
Stand	Hall 13, B71-4



Your Complete Glass Screen Printing Source

For over 20 years, A.W.T. has been the international "Clear Choice" for Glass Screen Printers. Providing "Total Technology", A.W.T. is the only single-source vendor providing custom engineered solutions to fit your specific glass printing needs. Every phase of your glass screen printing operation can be configured to achieve high-volume printing and curing of any ink and substrate combination - single or multicolor:

Automotive - Scratch-free systems, automated pre-centering, for rear window defrost grids, edge-to-edge decorating on windshields, side lights, and rear lights and more!

Architectural - everything from multicolor designs to fired ceramic frit applications - on commercial windows, room dividers, shower enclosures, etc.

Appliance - Parallel peel and squeegee pressure equalization offer expert application of ceramic and other inks to any appliance glass component: cook tops,

oven doors, touch-screen panels, microwave fronts, etc.

Decorative - Gas, Radiant Panel, UV, and Quartz drying/curing options give you complete flexibility for mirrors, plaques, signage and more!

Electronics - AWT's Super Micro-Registration provides exact repeatability of $\pm .001"$ for circuit board printing: galvano, solder resist, and strippable etch masks - as well as reliable identification markings.

Exhibitor profile		A.W.T. World Trade Inc.
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Advanced Control Solutions, Inc.



Address	8750 Resource Park Drive 43560 Sylvania, OH USA
Phone	+1 419 843-4820
Fax	+1 419 843-4821
Internet address	www.acsitoledo.com
E-Mail	
Stand	Hall 14, F21

Advanced Control Solutions by ACSI

ACSI is an integrator of information and control system solutions. Our application knowledge includes solutions for batching, continuous and packaging processes.

As the leading supplier of controls to the glass industry, ACSI has over 800 installations worldwide with systems operating in over 25 countries. Customers are serviced from our mainheadquarters in Toledo, OH, USA and from our European office in Oxford, England.

Exhibitor profile

Advanced Control Solutions, Inc.

Number of employees	31-100
Business volume	—
Export quota	—
Founding year	1992
Business segment	Glass manufacture / Production technology, Glas processing and finishing, Measurement, testing, control technology and software

Company Contacts

Advanced Control Solutions, Inc.

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Product Overview		Advanced Control Solutions, Inc.
05.01.01.01	Measurement and control of glass level	
05.01.01.05	Measurement and control of glass temperature	
05.03.04	Process control systems	

Advenira Enterprises Inc

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Phone	+1 408 7323950
Fax	
Internet address	www.advenira.com
E-Mail	
Stand	Hall 12, E05



Advenira Enterprises Inc

Advenira Enterprises has authored a novel Solution Derived Nanocomposite (SDN™) technology that allows for low-cost/high-throughput nanocomposite multifunctional coatings deposition on practically any type/shape/material substrate.

Exhibitor profile		Advenira Enterprises Inc
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Agr International Inc.

Address	615 Whitestown Road 16001 Butler, PA USA
Phone	+1 724 482-2163
Fax	+1 724 482-2767
Internet address	www.agrintl.com
E-Mail	sales@agrintl.com
Stand	Hall 14, C30



Inspection, testing and quality control equipment

Agr International, Inc. offers a complete line of equipment and services to the glass container industry. As an industry leader for over 80 years, Agr is committed to provide the glass container industry with the most technologically advanced products available for quality control and productivity improvement.

Exhibitor profile		Agr International Inc.
Number of employees	101-500	
Business volume	20-100 Mio US \$	
Export quota	max. 75%	
Founding year	1927	
Business segment	Measurement, testing, control technology and software, Research and teaching, trade literature, trade associations and organisations	

Company Contacts		Agr International Inc.
Department/Name	Address	
David Dineff	Agr International Inc. USA-16001 Butler, PA Phone: 001-724-482-2163 ddineff@agrintl.com	

Product Overview		Agr International Inc.
05.01.01.01	Measurement and control of glass level	
05.01.01.02	Measurement and control of viscosity	
05.01.01.04	Measurement and control of glass thickness	
05.01.01.06	Measurement and control of glass tension	

05.01.02.01	Surface, contour and imperfection measurement and control
05.01.03	Measuring devices to be used on site
05.01.05	Control and automation technology
06	Contracting, consulting, engineering, services

Product Details		Agr International Inc.
05.01.01.01	Measurement and control of glass level	

All-Shapes Spacing Device

The All-Shapes Spacing Device (ASD) provides consistent and accurate spacing of cartons, boxes, trays and rigid containers on a conveyor line.

The ASD can be used in applications where product spacing is desired prior to process or assembly operations. Typical spacing applications include inspection, coding, shrink-wrapping, and banding. The ASD can also be used to avoid prolonged container-to-container contact.

Features

Soft-sided spacing wheel for gentle grip Variable speed control to enable spacing and container feed adjustment Compact size – requires only 11" of line space Quick and easy job changes



05.01.01.04	Measurement and control of glass thickness
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OLT-Produktfamilie für die Dicke von Glasbehältern

On-Line Thickness Selectors (OLT) von Agr sind eine kostengünstige und zuverlässige Lösung für das Messen und Verwalten der Seitenwanddicke von Glasbehältern und der Materialverteilung im Produktionsprozess. Ein OLT wird direkt in die Fertigungsstraße integriert und ermöglicht Behälterherstellern, die Materialverteilung für jeden produzierten Behälter zu



überwachen, sodass sichere und leichte Behälter mit hoher Zuverlässigkeit produziert werden können. Verschiedene Versionen des OLT werden heute in Hunderten von Fertigungsstraßen auf der ganzen Welt eingesetzt. Die OLT-Produkte von Agr bieten folgende Vorteile: Eigenständige Systeme, die in einer Fertigungsstraße installiert werden können Einfache Verwendung, Einrichtung und Kalibrierung sowie minimale technische Kenntnisse bei der Bedienung Geeignet für das Messen schwieriger Flaschenbereiche, wie z. B. gebogener Abschnitte in den Fersen- und Halsbereichen Unabhängig von Flaschenfarbe oder Lichtverhältnissen Ermöglicht das Prüfen aller Behälter auf Produktionsebene in der Fertigungsstraße mit minimalen Bedieneingriffen und Wartungsanforderungen OLT-Systeme für Fertigungsstraßen von Agr sind in verschiedenen Versionen verfügbar, um die unterschiedlichen Anforderungen der Glasbehälterindustrie erfüllen zu können. OLT – Dickeauswahl in der Fertigungsstraße Dieses System wurde mit Blick auf die Wirtschaftlichkeit entwickelt und bietet grundlegende Pass/Fail-Auswahloptionen für die Behälterdicke. Es ist für eine große Bandbreite an runden Behälterformen und -größen geeignet. OLT-A – Erweiterte Dickeauswahl in der Fertigungsstraße Dieses System bietet Pass/Fail-Funktionen, Messungen der minimalen, maximalen und Dickeabweichung sowie eine Ausschussauswahl. HSOLT – High Speed On-line Thickness Selector Diese Version ist auf einen hohen Durchsatz ausgelegt. Sie bietet ein optimiertes Kopfdesign, eine verbesserte Handhabung, Einzelpunktsteuerung und -bedienung sowie Minimal-, Maximal- und Dickenschwankungsmessungen zur Auswurfselektion NROLT – Non-Round On-line Thickness Selector Diese Version wurde speziell für das Messen der Dicke von Einsätzen und Ecken rechteckiger Behälter sowie anderer Arten nicht runder Waren entwickelt. Sie bietet eine erweiterte Messungsanalyse und größere Vielseitigkeit.

05.01.01.06

Measurement and control of glass tension

Sampling Pressure Tester

The Sampling Pressure Tester (SPT) provides at-the-line testing of containers for pressure strength, automatically and without operator intervention. The SPT automatically gathers pressure data from sample containers by measuring the maximum internal pressure the containers can withstand.

Automatically pressure test bottles at the line Hands-free testing Provide consistent, reliable pressure testing results on a regular basis Generate pressure data – by cavity Monitor strength performance without the delays associated with laboratory testing

Features



Testing rate up to 3.7 bottles per minute RS232 and RS422 data ports for pressure test results Integral cullet chute Integrated finger stop controls

ANSUN Protective Metals, Inc.

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E-Mail	tony@ansunmetals.com
Stand	Hall 12, A72



A Manufacturer of Zinc Anodes, Sputtering Targets, and Custo

Incorporated in 1988, Ansun Protective Metals is a manufacturer of various zinc and aluminum castings to many industries. Ansun's "founding fathers" have over 50 years of combined experience making them a trusted source for all your corrosion protection and glass coating needs.

While our primary products are sacrificial zinc anodes for cathodic protection and sputtering targets for glass coating, we also specialize in custom shapes and custom alloys. In addition to casting zinc and aluminum alloys, our in-house services include continuous casting, rolling, and a full service machining. By providing a full range of services from the beginning of component design to the completion of component production, Ansun has developed an efficient casting process which allows us to provide our customers with excellent products and quick turn-around-time while minimizing their costs.

Ansun is one of the leading zinc anode manufacturers and exporters in the United States. Our marine hull anodes protect military and commercial vessels and our pipeline/tank anodes protect structures worldwide. While our anodes are available in weights as small as only a few grams, we produce anodes weighing up to 600 pounds! We can also customize our anodes to fit individual customers' needs.

Our sputtering targets are used worldwide by insulated glass coaters using all types of cathode systems. More recently, we have expanded our product catalog to now include sputtering targets for solar pannels. These targets are made from continuous cast and rolled alloys including pure zinc, zinc-aluminum, and zinc-tin. They are available in common and custom configurations. We work directly with our customers on developing and prototyping new targets and/or alloys. All machining is provided by our full service on-site machine shop.

Our die-cast alloy blanks are cast with low porosity and controlled cooling, enabling our customers to cut or finish the part to their specific needs. Our blocks are used for prototyping around the world. We specialize in short runs and many alloys, including:

ASTM-B86 Zamak-3 (ZA-3)

ASTM-B240 Zamak-5 (ZA-5)

Zamak-2 (ZA-2) Zamak-7 (ZA-7)

We are also equipped to develop specialty alloys which conform to your specifications. Our on-site development team has over 80 years of metallurgy experience.

Exhibitor profile

ANSUN Protective Metals, Inc.

Number of employees –

Business volume –

Export quota –

Founding year

Business segment

Casso-Solar Technologies LLC



Address	506 Airport Executive Park 10954 Nanuet, NY USA
Phone	+1 845 354-2010
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Internet address	www.cassosolartechnologies.com
E-Mail	sales@cassosolartechnologies.com
Stand	Hall 13, B71-7



Casso-Solar Technologies LLC

Casso-Solar Technologies LLC has over 50 years combined experience in concept and design of industrial heating systems for the glass industry.

Glass Laminating Systems - Batch without Autoclave, Continuous Press with and without Autoclave, Continuous Vacuum Laminating with and without Autoclave - Interlayer materials including PVB, DuPont SentryGlas, EVA, Urethane and more. Architectural, Automotive, Noise Reduction, Ballistic and Photovoltaic Applications. NEW CONVEYORIZED NON-AUTOCLAVE LAMINATING SYSTEM WILL BE INTRODUCED AT THE SHOW

Glass Decorating Systems - May incorporate screen printing, roll coaters for spandrel, digital printing with IR, combination IR/Convection or UV drying/curing. Complete package with cooling. Compatible with water miscible and solvent ceramic inks, silicone inks such as ICD Opaci-Coat, expoy and other inks. Architectural, Automotive, Appliance and Photovoltaic Applications

Bending Systems - Annealed, Multizone, shuttle or indexing systems. Architectural, Automotive Ballistic, and Aircraft Applications

Custom Furnaces - Vertical and horizontal, rolling hearth, anneal and more

Replacement and Retrofit oven and furnace heaters

Exhibitor profile Casso-Solar Technologies LLC

Number of employees	—
Business volume	—
Export quota	—
Founding year	
Business segment	

Product Overview Casso-Solar Technologies LLC

01.09.03	Annealing lehrs, continuous/intermittent operation
01.09.04	Decorating lehrs
01.09.05	Pre-heating furnaces
01.09.06	Fusing Kiln
01.14.06.04	Temperature control ovens
02.04	Forming and bending technology
02.06.02	Enameling machines, screen printers, thermal printing equipment

02.06.05	Dryers and decorating technology
02.07.01	Machines and equipment for the production of display glass
02.09.02.01	Laminated glass technology with foil for architectural glass
02.09.02.02	Laminated glass technology with foil for automotive glass

Product Details

Casso-Solar Technologies LLC

02.09.02.01	Laminated glass technology with foil for architectural glass
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Casso-Solar Technologies

Casso-Solar Technologies Introduces Their New Conveyorized Non-Autoclave Vacuum Laminating System
Casso-Solar Technologies of Nanuet N.Y. will be introducing the latest

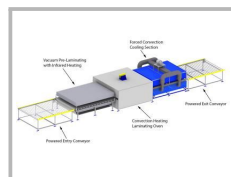
in conveyorized laminating for medium sized formats without the need for an autoclave, at GLASSTEC 2012 this October 23-26, 2012 in Dusseldorf, Germany.

This new laminating system will allow our customers to provide same-day turnaround. Conveyorized system=minimal handling. Process PVB, Urethane, EVA, DuPont SentryGlas. Glass sizes up to 96"x180". Reduced yield times. For use with Architectural Coated and non-Coated glass, Decorative Glass, Structural Glass Products, Photovoltaic, Ballistic & Appliance Glass.

In addition to the new conveyorized laminating machine, Casso-Solar Technologies offers high speed laminating systems with autoclave and a batch laminating system, non-autoclave, providing a full spectrum of price and production capabilities.

Casso-Solar Technologies specializes in providing tailored solutions to meet the customers' needs. With hundreds of successful glass system installations worldwide, our engineers are always innovating providing exceptional technical support.

Our infrared technology is superior to convection in terms of efficiency, unifor-



mity and cycle time. In-House laminating allows you to: Control Quality - Ensure On-Time Delivery – Reduce Manufacturing Costs. With new product and process technology under continuous development at Casso-Solar Technologies, production equipment is designed for precise and flexible control over production quality, while operating efficiently with minimum maintenance.

With over fifty years of experience, Casso-Solar Technologies has been providing

our customers 'the competitive edge'. Visit us at Stand 13/B59-9 as part of the US Pavilion, October 23-26, 2012 – Dusseldorf, Germany.
www.cassosolartechologies.com

Tel # 845-354-2010

Diamon-Fusion International Inc.

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Fax	+1 949 388-3299
Internet address	www.DFIolutions.com
E-Mail	info@diamonfusion.com
Stand	Hall 12, A20



DFI-Fusion International Inc.

Diamon-Fusion International (DFI) is the world's leader in surface protective coating for glass, tile, granite, porcelain, quartz, and most silica-based surfaces.

From non-stick low-maintenance coatings to scratch / impact resistance coatings, we've got you covered!

Exhibitor profile

Diamon-Fusion International Inc.

Number of employees –

Business volume –

Export quota –

Founding year

Business segment

Dura Temp Corp.

Address 949 S. McCord Rd.
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USA

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Fax +1 419 866-4656

Internet address www.duratemp.com

E-Mail sales@duratemp.com

Stand Hall 13, A71



About Dura Temp Corporation

Dura Temp Corporation is an industry-leading supplier of hot ware handling solutions for glassmakers worldwide. From the gob forming area through the lehr loader, Dura Temp offers superior materials, quick-change parts and assemblies, and technical experience that allow glassmakers to achieve optimum results in the hot-end. With a global network of agents and distributors, Dura Temp

is continuously evaluating the changing needs of the glass industry and adapting the solutions it offers to best meet these needs.

Partnering with Dura Temp means Improved Pack Rates Through:

- Proper Ware Handling
- Reduced Downtime
- Enhanced Product Output
- Constant Innovation
- Rapid Order Deliveries
- Exceptional Service

Dura Temp's product lines include:

- Sweepout Pockets and Assemblies
- Ware Guides
- Transfer Paddles
- Lehr-Stacker Bars, Pockets and Insulators
- Transfer and Lehr Deadplates
- Contact Pads and Fingers
- Sheet Materials
- Vacuum Pads and Platens

Exhibitor profile		Dura Temp Corp.
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Company Contacts		Dura Temp Corp.
Department/Name	Address	
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Product Overview		Dura Temp Corp.
01.06.17	Aids for the forming of hollow glass	

E.W. Bowman, Inc.

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Phone	+1 724 438-0503
Fax	+1 724 439-5880
Internet address	www.ewbowman.com
E-Mail	cmcmamus@ewbowman.com
Stand	Hall 13, B71-1

Exhibitor profile		E.W. Bowman, Inc.
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Product Overview		E.W. Bowman, Inc.
01.09.04	Decorating lehrs	
01.09.05	Pre-heating furnaces	

Eclipse Inc.



Address	1665 Elmwood Road 61103 Rockford Illinois USA
Phone	+1 815 877-3031
Fax	+1 815 877-2656
Internet address	www.eclipsenet.com
E-Mail	callen@eclipsenet.com
Stand	Hall 13, A93



About us

Eclipse is a worldwide leader in advanced combustion technology for all segments of the glass industry for re-generative, recuperative, unit melter, and oxygen-fuel fired furnaces. Our products include fuel-efficient burners and complete combustion systems for use with air, oxygen, gas or oil. Eclipse offers burner systems to meet any glass melting requirements, in addition to Oxygen Enriched Air Staging, oxy-boosting, oxy-forehearth systems, control systems and furnace monitoring. Eclipse has the largest portfolio of combustion products in the industry to support the melting requirements of the glass industry. More than 1,000 glass furnaces worldwide use Eclipse combustion equipment. Eclipse has regional locations in Rockford, Illinois, U.S.A., Gouda, The Netherlands and Suzhou, China.

Exhibitor profile

Eclipse Inc.

Number of employees	> 500
Business volume	> 100 Mio US \$
Export quota	max. 50%
Founding year	1908
Business segment	Glass manufacture / Production technology

Company Contacts

Eclipse Inc.

Department/Name	Address
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Product Overview

Eclipse Inc.

01.04.02	Forehearth technology
01.04.05	Gas equipment and supply systems
01.04.09.01	Combustion technology for oil and gas fired smelting furnaces
01.04.09.02	Combustion technology for oxygen heating systems
01.04.10	NOx control technology
06	Contracting, consulting, engineering, services

Fenetech Inc.

Address	1455 Danner Dr. 44202 Aurora, Ohio USA
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Fax	+1 330 5628688
Internet address	www.fenetech.com
E-Mail	info@fenetech.com
Stand	Hall 14, F40



The world's most Integrated ERP Software Solution

Since 2010 FeneTech is also represented in Europe through its sister company FeneTech Europe SARL, located in Strassen, Luxembourg. From there a large team of very experienced software technicians implement and service the world's most integrated and modern software ERP solution for the flat glass industry.

FeneTech commenced operation in 1996 to provide software automation products and services to the glass, window and door fabrication industry. The rapidly changing business environments of our clients require automation software that is modern, reliable and flexible. FeneTech delivers this technology with innovative products and an uncompromising commitment to serve our customers. For the very first time in Europe FeneTech will display and demonstrate its newest software ERP generation - FeneVision neo - even more integrated, modern and with various new functionalities. One of the most important features of neo are the newly developed native iPad apps to support various business functions as well as E-commerce and other new enhancements.

Exhibitor profile		Fenetech Inc.
Number of employees	31-100	
Business volume	5-20 Mio US \$	
Export quota	max. 50%	
Founding year	1996	
Business segment	Measurement, testing, control technology and software, Contracting, Consulting, Engineering, Services	

Company Contacts		Fenetech Inc.
Department/Name	Address	
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Heinz Wiedmayer	FeneTech Europe SARL L-8069 Strassen Phone: +352 661854529 Fax: +352 26398455 heinz.wiedmayer@fenetech-europe.com	

GED Integrated Solutions Inc.

Address	9280 Dutton Drive 44087 Twinsburg, OH USA
Phone	+1 330 963-5401
Fax	+1 330 963-0584
Internet address	www.gedusa.com
E-Mail	
Stand	Hall 15, A55



About Us

GED Integrated Solutions (GED) is a world leader of robust manufacturing solutions that include fully integrated IG manufacturing technologies and PVC window and door fabrication systems. For over 35 years, GED has successfully served the window and door industries by providing cutting-edge manufacturing and software systems through award-winning innovations. Notable 'firsts' for the company include in 1977 - the first Horizontal Hot Melt IG Fabrication equipment; 1987 - the first Break-Out Monitors; the first WinSystem 1 software platform and, in 1991 - the revolutionary Intercept® Warm Edge Spacer System. 'Warm Edge' was a term PPG/GED originated to describe the benefits of the new technology over standard spacer systems that were prevalent at the time.

GED's i-3 platform works with its LeanNet communications software to integrate every facet of a plant's operation, increasing IG quality and production volumes and profits while decreasing operating costs and material wastage. GED's commitment to innovation that addresses its customers' needs is evidenced by the fact that 18 of the top 20 window and door manufacturers in North America utilise GED's equipment and software solutions. Comprised of a team of top engineers, with over 350 combined years of industry experience and expertise, GED is dedicated to the industry's success through the development of the best and most

cost effective system solutions resulting in the highest value.

Exhibitor profile		GED Integrated Solutions Inc.
Number of employees	31-100	
Business volume	—	
Export quota	—	
Founding year	1977	
Business segment	Glass manufacture / Production technology, Glas processing and finishing, Contracting, Consulting, Engineering, Services	

Company Contacts		GED Integrated Solutions Inc.
Department/Name	Address	
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S. Joseph Shaheen	GED Director of Sales & Marketing USA- Phone: 01-330-963-5401 Fax: 01-330-963-0584 jshaheen@gedusa.com	
Bill Weaver	GED President & CEO USA- Phone: 01-330-963-5401 Fax: 01-330-963-0584 bweaver@gedusa.com	

Product Overview

GED Integrated Solutions Inc.

02.08.01	Complete plant for insulating glass production
02.08.02	Production equipment for spacers
02.08.03	Production equipment for insulating glass frames
02.08.04	Edge deletion equipment
02.08.06	Sealing techniques
02.10.01	Washing machines and equipment
02.13.02	Software

Product Details

GED Integrated Solutions Inc.

02.08.01	Complete plant for insulating glass production
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ATLAS®

Visitors will fully appreciate the efficiency of a revolutionary glass fabrication system that automatically produces dual and triple pane IG units in 20-second cycles (triples three units/minute, duals six units/minute) when GED Integrated Solutions presents its new Automated Tri-Lite Assembly System (ATLAS®) at glasstec 2012. While triple glazing is rapidly becoming more popular with both specifiers and homeowners alike, the normal production process is slow, cumbersome, and fraught with potential for handling mishaps. This means the process is costly. ATLAS is a stand-alone solution to the demand for 'Touch-Free' IG unit production and is adaptive to a range of combinations, including standard and branded Warm Edge spacer systems, small and large units, dual and triple-glazed, and in any order or combination of the above.



Machine-controlled consistency ensures uniform, high quality sealed units in the fastest time possible — and with operator handling eliminated, remakes are a thing of the past

Intercept® Warm Edge spacer machine.

Also featured is GED's advanced i-3 production line for producing sealed units manufactured from Intercept® Warm Edge spacer.

I-3 production is for both the larger and medium-sized IGU and window and door manufacturer who want an advanced warm edge spacer system that offers greater capacity capability with less waste and minimal cost along with a compact design. With a production capacity three times that of conventional lines, i-3 offers exceptional advantages in production that will see a Return On Investment within only six months.

With desiccant and primary seal applied, the Intercept® Spacer System is an exceptionally efficient means of offering Warm Edge technology as it eliminates the need for benders, desiccant fillers and PIB machines. The inherent stability of the spacer's inside surface also means that Georgian bar inserts stay straight. This is because the spacer is pre-notched during manufacture so no further machinery is needed for assembly. When glazed, Intercept is unobtrusive as it fits below the sight lines; in the Blackline version it is almost invisible.

GEN-IN-LLC



Address	2840 West Bay Drive, STE 133 33770 Largo USA
Phone	+1 727 216-9670
Fax	+1 727 216-6273
Internet address	www.gen-in.com
E-Mail	contactus@gen-in.com
Stand	Hall 14, G48



Vision for Glass .. Vision in Glass

The Gen-In LLC team has extensive experience supplying cold-end equipment to the Hollow Glass indus-

try. We offer a range of new equipment and upgrades, support and spare parts for existing inspection equipment

Gen-In LLC and our associates, have the expertise to provide any cold-end project services, for example,

New inspection equipment, upgrades and refurbishments for existing cold end inspection equipment Equipment specification, Cold-end layouts and Line control Custom inspection integration or system development custom glass handling equipment Quality systems and validation

Exhibitor profile GEN-IN-LLC

Number of employees	—
Business volume	—
Export quota	—
Founding year	
Business segment	Measurement, testing, control technology and software

Product Overview GEN-IN-LLC

05.02.04	Controls for glass inspection machines
05.01.01.07	Measurement and control of glass colour
05.01.02.01	Surface, contour and imperfection measurement and control

Product Details GEN-IN-LLC

05.01.02.01	Surface, contour and imperfection measurement and control
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WSI Upgrade



WSI is a low cost upgrade for Super-Inspectors (SI 5*512, SI-II and SI3), designed to extend the life of these industry-favorite inspection systems by replicating functionality and performance using the latest in industrial vision components. The new RPS option adds integrated sidewall stress inspection to your existing inspection unit. With continued development, such as our SmartSense technology and Auto-Tune functionality, the WSI retrofit and refurbishments maintains easy operation with enhanced inspection performance.

Glassline Corporation



Address	28905 Glenwood Road 43552-0147 Perrysburg, OH USA
Phone	+1 419 666-5942
Fax	+1 419 666-1549
Internet address	www.glassline.com
E-Mail	sales@glassline.com
Stand	Hall 13, C65-2

Glassline Corporation

Glassline Corporation is a premiere global supplier for the flat glass processing markets of automotive, appliance, furniture, architectural and specialty glass. We are a full service company, including custom engineering, machinery, and diamond tooling manufacturing, working in collaborative partnerships with our Customers. Our broad product line provides our Customers with a wide range of choices in order to meet their needs, including CNC Cutting(also with Edge Deletion), Auto-Breaking, CNC Grinding, Double Edging, Automated Drilling Systems, Screen Printing and Drying, Waterjet Cutting, Centrifugal Filtration,

Wheel Redressing Equipment, and more, all meeting high quality standards set by our customers.

Exhibitor profile Glassline Corporation

Number of employees	101-500
Business volume	–
Export quota	max. 50%
Founding year	1970
Business segment	Glass manufacture / Production technology

Company Contacts Glassline Corporation

Department/Name	Address
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Mark Opfer	Glassline Corporation USA-43552-0147 Perrysburg, OH Phone: +1 419-466-4966 Fax: +1 419 666-1549 markopfer@glassline.com
Enrique Morales	Glassline Corporation USA-43552-0147 Perrysburg, OH Phone: +1 419 666-5942 Fax: +1 419 666-1549 enrique.morales@glassline.com

Product Overview Glassline Corporation

02.01.01.01	Cutting technology for float glass
02.02	Drilling technology
02.03.01.02	Grinding techniques for patterned glass
02.03.07	Water treatment for grinding technology
02.03.08.01.01	Screen printing techniques

Product Details Glassline Corporation

02.01.01.01	Cutting technology for float glass
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CNC Cutting Machines

Top Quality CNC Cutting Machine Features:

- Dual Linear Motors for Bridge Travel
- Linear Motor for Carriage Travel
- Direct Drive Cutting Head Rotation Axis(optional direct drive breaking head axis)
- Tight Tolerances at high speed and acceleration.



CNC Edge Deletion

Can be made as a stand-alone system or as an additional head to a CNC Glass Cutter.

CNC Vinyl Shape Cutter

Provides savings by the elimination of trimming operators. CNC cutting provides flexibility and savings over die-cutting.

Edge Deletion

CNC Edge Deletion

An edge deletion head is mounted to a CNC bridge. The unit can be a dedicated unit for edge deletion, or can be added to a CNC Cutting machine.

Double Edger Style Edge Deletion

For products that are already cut to size, or exiting directly out of the coater to size, this style of system lends itself well to the high speed capability. Four edges are processed at one time. The Edge Deletion system can be configured as desired, either in a typical L pattern, or In-Line.

In-Line Edge Deletion(double edger style)

02.02

Drilling technology

Automatic Breakout

Mechanical Pressdown Breakout Systems:

- Automatic X-Y breakout systems
- Automatic Shape Breakout - both manual setup for full CNC of various types



Drilling Machines

Fully Automatic top&bottom drilling heads using servo feed or pneumatic. Various automatic positioning systems available:

- Linear/Polar glass and drill positioning systems
- X glass positioning and Y drill head positioning
- X/Y Drill Tables
- Auto load/unload; multiple heads and stations.
- Inline drilling systems after double edging



02.03.01.02

Grinding techniques for patterned glass

CNC Grinding Machines

Our X-Y CNC Grinders were proven the most accurate machines on the market. Glassline has a range of configurations of CNC Grinders to suit any production need. Complete cutting, breaking, grinding, and drilling systems can be configured.



02.03.07

Water treatment for grinding technology

Centrifuge Systems

Small Units(80LPM) with manually removable liners

Large(275LPM) automatic dumping units available with large tank systems, automatic dosing, etc.



Double Edge Grinding and High Speed Seaming

Double Edgers feature:

- Automatic width change with linear rails and dual ball screws for precise control(high speed size change option available)
- Pressure adjusted heads for optimum speed and stock removal
- High Speed Seaming(#4 edge) at 30m/min
- Water/Mist Collection option
- Grooving, Servo corner dubbing, etc.



02.03.08.01.01

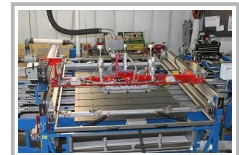
Screen printing techniques

Screen Printing Machines

Top quality, fully automatic, high speed, precision printing systems available for appliance, automatic sidelites/quarterlites, backlites, windshields, bus windshields, and architectural.

Many important features:

- Patent pending 4 corner servo lift
 - Automatic centering system - Patented
 - Edge to Edge Printing - Patented
 - easy screen extraction
- and more...



Glasstech, Inc.



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Fax	+1 419 661-9616
Internet address	www.glasstech.com
E-Mail	sales@glasstech.com
Stand	Hall 13, D75

Glasstech, Inc.

Glasstech, Inc., is the world's leading manufacturer of glass bending and tempering technology for the solar, automotive and architectural glass markets.

Please visit Glasstech at the Glasstec exhibition Hall 13, D75 for additional details.

Exhibitor profile	Glasstech, Inc.
Number of employees	–
Business volume	–
Export quota	–
Founding year	
Business segment	

Product Overview

Glasstech, Inc.

02.04	Forming and bending technology
02.09.01.01	Furnaces for thermal pre-tempering of glass
03.04.02.02	Solar mirrors / CSP
05.01.02.01	Surface, contour and imperfection measurement and control

Product Details

Glasstech, Inc.

02.04	Forming and bending technology
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CRB-S Reflector Shape Bending and Tempering



02.09.01.01	Furnaces for thermal pre-tempering of glass
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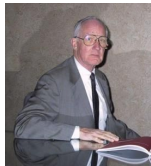
Continuous Flat glass Tempering Machines

Large Volume Photovoltaic Glass

Glasstech is in the forefront, supplying the equipment glass processors need to provide the photovoltaic solar industry with the ultra-flat panels it uses, at remarkably low costs. Speak with a Glasstech representative about the full range of natural gas-fired and electric continuous flat glass tempering systems available.

Henry F. Teichmann, Inc.

Address	3009 Washington Road 15317 McMurray, PA USA
Phone	+1 724 941-9550
Fax	+1 724 941-3479
Internet address	www.hft.com
E-Mail	customerinquiry@hft.com
Stand	Hall 13, B65-1



"Satisfied clients are our most important asset"

Since 1947, Henry F. Teichmann, Inc. has grown and progressed on the theme: "Satisfied clients are our most important asset." Our employees are practical, conscientious, and experienced in every phase of the glass industry. As a result of our clients successes, we have become recognized worldwide as one of the largest independent Engineers and Contractors to the Glass Industry.

We take great pride in our reputation and expect to continue to improve and innovate as contractors and engineering specialists. We promise to be worthy of the position we have earned and achieved within the glass industry.

Please take a look around our web site. We hope that you find it informative and helpful. We have organized the site to make browsing easy and convenient to find the products and services that are of interest to you. We guarantee you will be completely satisfied because you are our most important asset. Now just click on any item below and thank you for visiting us.

Foto: Arch L McIntyre

Exhibitor profile

Henry F. Teichmann, Inc.

Number of employees —

Business volume —

Export quota —

Founding year

Business segment

Industrial Control Development, Inc. ICD High Performance Coatings

Address	13911 NW 3rd Center, Suite 100 98685 Vancouver, WA USA
Phone	+1 360 54622-86
Fax	+1 360 54622-87
Internet address	www.icdcoatings.com
E-Mail	krisvockler@icdcoatings.com
Stand	Hall 11, D14



About ICD

ICD is an industry leader in:

high performance coatings where environment and health have to meet performance breakthroughs in technology cutting edge coatings that achieve color and performance Architectural Flat Glass (Spandrel & Screen Print on Glass) metals and plastics such as polycarbonate

ICD's coatings are created to fit market needs and always be "Green".

The ICD coating story began over twenty years ago with the invention of OPACI-COAT-300® a coating that became a flat glass industry standard for spandrel applications; including exterior curtain wall and interior wall cladding applications.

As new technology arises in silicone chemistry and its derivatives, ICD is in the marketplace filling a need and solving a problem; always with an eye toward products that add value to green and sustainable building practices.

Today's marketplace changes very quickly, with one of ICD's core development values being "problem-solving", we can help create that paint or coating that meets any demand.

Senden an FacebookSenden an TwitterHinzufügen zu LinkedInSenden an DeliciousSenden an StumbleUponSenden mit E-mail program

Exhibitor profile

Industrial Control Development, Inc. ICD High...

Number of employees –

Business volume –

Export quota –

Founding year

Business segment

Intraco Corporation

Address 530 Stephenson Hwy.
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E-Mail itcglass@intracousa.com

Stand Hall 10, A40



World Class International Distributor

Intraco Corporation is head-quartered in Troy, Michigan, with offices and operating centers across the globe. We specialize in high performance, energy efficient, technologically advanced architectural glass from North America and Europe to the Middle East, Latin America and across the globe. We add greater value to both our suppliers and customers by manag-

ing in house, ALL international logistics services, owning and operating Intraco truck fleets, global warehouse and distribution centers. Intraco is committed to exceeding both the requirements of its suppliers and the demands of our customers. Our continued success and dedication to the building and architectural industry is dependent upon attracting, servicing and retaining world class relationships with manufacturers and exceptional customers who share the same commitment to excellence.

Exhibitor profile		Intraco Corporation
Number of employees	101-500	
Business volume	> 100 Mio US \$	
Export quota	> 75%	
Founding year	1971	
Business segment	Glass products and applications	

Product Overview		Intraco Corporation
03.01.01	Float and mirror glass	

Joe's Refrigeration, Inc.

Address	W5496 County Road X 54498 Withee, WI USA
Phone	+1 715 229-2312
Fax	+1 715 229-2158
Internet address	www.joesrefrigerationinc.com
E-Mail	toddr@joesrefrigerationinc.com
Stand	Hall 13, C65-5

Joe's Refrigeration, Inc.

Joe's Refrigeration, Inc. was founded in 1958 by Joe Frankewicz. At this time refrigeration was the only focus. In 1973 Steve joined and dairy equipment was added. Shortly after brother Ken joined the business.

Steady growth continued through the 70's and 80's and by this time we had achieved a dominant position in both refrigeration and dairy. By the mid 90's we were looking to spread our wings again. We refocused on our strengths dairy, refrigeration and our growing ability to be innovative and creative. We started building specialty projects to solve customer problems.

Today's clean rooms are a result of this innovation. Today we enjoy a strong nation wide market as well as having a growing international presence. In 2006 and 2007 Joe's Refrigeration, Inc was recognized as one of Inc 5000 fastest growing businesses.

Exhibitor profile

Joe's Refrigeration, Inc.

Number of employees –

Business volume –

Export quota –

Founding year

Business segment

Key Communications Inc.



Address 385 Garrisonville Rd. Suite 116
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Fax +1 540 720-5687

Internet address www.glass.com

E-Mail info@glass.com

Stand Hall 13, A102

About us

USGlass Metal and Glazing is the largest magazine in the world covering the architectural glass industry exclusively. Free subscriptions to USGlass, Architects' Guide to Glass & Metal, Door and Window Market (DWM), Auto Glass Journal, AGRR and Window Film magazines, e-newsletters and apps available at glass.com/subcenter or visit stand 13A102 in Hall 13. Contact info@glass.com

with ideas/questions. View daily news and videos at usgmn.com or usglass-mag.com.

Exhibitor profile

Key Communications Inc.

Number of employees –

Business volume –

Export quota –

Founding year

Business segment Glass manufacture / Production technology, Glas processing and finishing, Tools, replacement and spare parts, auxilliary equipment and fittings, Measurement, testing, control technology and software, Contracting, Consulting, Engineering, Services

Product Overview

Key Communications Inc.

07.02 Specialised Publishers

KTG Systems Inc



Address	Suite 110, 101 Bradford Road 15090 Wexford, PA USA
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Fax	+1 724 9400338
Internet address	www.ktgsi.com
E-Mail	sales@ktgsi.com
Stand	Hall 13, A65

KTG SYSTEMS INC

Part of the TECO Group. Glass plant engineers and contractors, designing and constructing electric, fossil fuel and oxy-fuel furnaces. Providing melting technology, engineering, contracting and consulting to all sectors of the glass industry.

Exhibitor profile

KTG Systems Inc

Number of employees	—
Business volume	—
Export quota	—
Founding year	
Business segment	Glass manufacture / Production technology, Tools, replacement and spare parts, auxiliary equipment and fittings, Measurement, testing, control technology and software, Contracting, Consulting, Engineering, Services

Product Overview

KTG Systems Inc

01.04.06	Regenerative systems
06	Contracting, consulting, engineering, services

LiteSentry Corporation

Address	210 Country Road 1 E 55019 Dundas MN USA
Phone	+1 507 645-2600
Fax	+1 507 301-3323
Internet address	www.litesentry.com
E-Mail	mabbott@litesentry.com
Stand	Hall 14, B08



LiteSentry Corporation

Glass Inspection and measurement systems for quality + process control

Introducing the all new Osprey 6 Distortion + Flatness Inspection for tempered + laminated glass

Introducing the new Raven 12 Sensor for measurement of glass thickness, IG

space thickness, LowE coating detection and coated surface identification

Scratch, Blemish + Coating Defect Inspection using the Hawk 3/4 scanner platform for IG / Double Glaze, Coating + Laminatin lines

Exhibitor profile		LiteSentry Corporation
Number of employees	11-30	
Business volume	–	
Export quota	max. 25%	
Founding year	1999	
Business segment	Measurement, testing, control technology and software	

Company Contacts		LiteSentry Corporation
Department/Name	Address	
Diana Abbott	LiteSentry Corporation USA-55019 Dundas, Minnesota Phone: +1 507 645-2600 Fax: +1 507 301-3323 dabbott@litesentry.com	

Company News		LiteSentry Corporation
07/30/2014	Osprey 6 hits the market running	

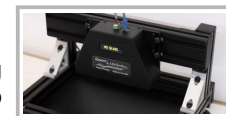
The first Osprey 6 Distortion + Flatness Inspection system was installed July 29 in Georgia USA. This is the latest in the Osprey platform, with all new camera and

lighting technology. Over 160 Osprey Inpsection systems operate on tempering plants on 5 continents.

Product Overview		LiteSentry Corporation
05.01.01.04	Measurement and control of glass thickness	
05.01.02.01	Surface, contour and imperfection measurement and control	
05.01.04	Detectors for laminated glass	
05.05.07	Visual inspection systems	
05.05.08	Process control	

Product Details		LiteSentry Corporation
05.01.01.04	Measurement and control of glass thickness	

Raven™ Thickness & Coating Sensor for Glass



The Raven™ by LiteSentry™ Thickness & Coating Sensor measures moving or stationary glass on-line to +/-0.1 mm. This non-contact glass thickness sensor provides 100% inspection, replacing periodic human inspection. Monitors glass thickness. Confirms critical dimensions. Eliminates costly errors.

Raven™ Brochure

Features:

LED-based simple spectrometer, integral electronics and embedded algorithms On-line at glass velocities up to 700 mm/s Discriminates Clear from low E coated glass. Discriminates single, double and triple silver lowE coatings. Thickness measurement range: 0 – 35.0 mm. Mounts above glass. No components below glass. Rugged aluminum and steel housing intended for industrial environments Accuracy: +/-0.1 mm for 0-8 mm, +/- 0.15 mm for 9-35 mm glass thickness Outputs: Local alphanumeric LED display in mm and coating Remote output via Cat5 network connection and open-source XML output. 110 or 208-220 VAC

input to DC power supply (provided) 5 meter (16 ft.) cable provided

05.01.02.01

Surface, contour and imperfection measurement and control

Osprey®6 Distortion + Flatness Inspection System



Osprey®6 Distortion + Flatness Inspection System for Glass and Plastic Patented The Osprey 6 is the world leading on-line measurement system for tempered glass, and is the only measurement system in the world capable of meeting the requirements of PPG Certified Fabricators, Guardian Select Fabricators, and suppliers to USA government contracts. First developed in 1999, over 160 Osprey systems operate in tempering plants on 5 continents. Osprey 6 was launched in 2014 and provides state-of-the-art technology in optical distortion measurement in heat-treated glass and plastic.

The Osprey 6 provides true optical measurement in lens power (diopters) as seen by the customer! The Osprey 6 measures all types of optical distortion including roll wave, edge kink, local bow, pocket, side kink, hammer, bird's eye, picture framing, belly banding, edge lift and all other types of distortion. Utilizing patented optics, high-speed cameras and powerful algorithms, Osprey 6 by LiteSentry™ is the industry standard.

Benefits

Improves quality & reduces product returnsIncreases ThroughputReplaces labor consuming manual measurementsDecreases scrap

Osprey Competitive Comparison

Features

Many substratesScalable width systemIntuitive user interfaceOutputs in many formats for easy integrationOptical system requires little maintenanceDesigned for harsh factory conditions 2 Versions:

Osprey for architectural and residential glass fabrication and solar module fabrication.Osprey CW for Continuous Web measurement for plastic sheet and float glass.

05.01.04

Detectors for laminated glass

Hawk®3 Scratch and Defect Inspection



Hawk®3 by LiteSentry™ is a high-resolution camera-based inspection system. Inspects both front and rear surfaces of monolithic glass as it moves down the fabrication line. This on-line defect inspection system operates at conveyor velocities up to 900 mm/s, the fastest in the industry. Applications include IG / Double or Triple Glaze, Lamination and Coating lines.

Prevents defects from proceeding to high value-added operations. Keeps defects out of your customer's sight. Improved quality = increased profit.

Magneco/Metrel INC.

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Phone	+1 630 543-6660
Fax	+1 630 543-1479
Internet address	www.magneco-metrel.com/
E-Mail	marketing@magneco-metrel.com
Stand	Hall 13, A83



About us

Origin

Magneco/Metrel was formed by a merger of two small companies, Magneco who made fired

shapes and Metrel who made monolithic refractories. The concentration was to be on innovation and the creation of value to the customer by lowering the cost of his production.

History

Early product combinations of Magneco/Metrel were refractory stool inserts with Metrel mortars, coatings and patch materials; Magneco dams, weirs and baffles combined with Metrel low cement castables and tundish veneers. Blast Furnace Cast House Refractories which evolved from: Fast drying shovel set and rammable materials using colloidal silica as a binder; to resin bonded ramming Mixes and shapes made from low cement castables licensed from Kawasaki's Refractories, starting in 1983.

Recent Times / Nanotechnology

Starting in 1989 Magneco/Metrel, recognizing the insurmountable shortcomings of low cement castables, made a total commitment to a new technology utilizing the latest versions of colloidal silica combined with other chemical additives to form a unique binding system. Nanotechnology had come to the Cast House. The first products utilizing the unique colloidal silica binding system were pumpables, which could, of course, be cast but could also be moved through hoses at a considerable distance. The second round of complimentary colloidal silica bonded products was capable of being shotcreted to rebuild surfaces without the use of forms.

Today Nanotechnology Continues

The great success of the Nanotechnology approach in Iron making Cast Houses led to other Iron making applications for a family of products built on the common base of the colloidal silica binder system. At the present time these products are used throughout cast houses and also:

In shotcrete reprofiling of the stacks and boshes of Blast Furnaces Hearth leveling and cooling course sStave backfill Arrester courses Artificial Skulls; and Protection of new staves on their hot faces

The unique characteristics of the Refractories made with the colloidal silica binder system developed by Magneco/Metrel, caused Magneco/Metrel to exper-

iment with a number of other formulas to create value for customers by providing quick repairs and therefore equipment availability. To date, there has been great success with monolithic materials in Reheat Furnaces, Glass making Furnaces, Frit making Furnaces, Sodium Silicate Furnaces and in the Aluminum, Copper and Ferro Alloys Industries. Products using the binder system are also finding success in Power Plants and throughout Industries in general, wherever heat and corrosive elements must be contained by material which can be endlessly repaired, providing fast turnarounds coupled with outstanding physical properties such as hot modulus of rupture, thermal shock and thermal cycling resistance and resistance to corrosive attacks.

Exhibitor profile		Magneco/Metrel INC.
Number of employees	101-500	
Business volume	20-100 Mio US \$	
Export quota	—	
Founding year	1981	
Business segment		

Merkle International, Inc.

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Phone	+1 815 777-2100
Fax	+1 815 777-2106
Internet address	www.merkleintl.com
E-Mail	sales@merkleintl.com
Stand	Hall 13, A76



Merkle International, Inc.

Merkle International, Inc. is the world's leading supplier of suspended refractory systems and related furnace equipment. Merkle supplies suspended backwalls, tin bath roofs and other furnace components as well as blanket batch chargers

Exhibitor profile		Merkle International, Inc.
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year	1971	
Business segment	Glass manufacture / Production technology	

Company Contacts

Merkle International, Inc.

Department/Name	Address
Timothy Park	Merkle International, Inc. USA-61036 Galena, IL Phone: +1 815 777-2100 Fax: +1 815 777-2106 tpark@merkleintl.com

Product Overview

Merkle International, Inc.

01.04.01	Batch charging technology
01.04.03	Smelting technology for tank furnaces
01.05.01	Float glass technique
01.08.01	Glass wool technology

Product Details

Merkle International, Inc.

01.04.01	Batch charging technology
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Merkle Batch Chargers

Merkle blanket batch chargers are known for their robust design and ease of operation. Each batch charging system is custom fit to your furnace, providing consistent batch charging for multiple furnace campaigns.

Messe Düsseldorf North America

Address	150 North Michigan Avenue 60601 Chicago, IL USA
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Messe Düsseldorf North America

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Stand	Hall 09, D04-1

National Glass Association NGA

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Phone	+1 703 4424890
Fax	+1 703 4420630
Internet address	www.glass.org
E-Mail	dsheehan@glass.org
Stand	Hall 13, C65-1

National Glass Association

Founded in 1948, the National Glass Association is the largest and most influential trade association serving the architectural glass, automotive glass, and window and door industries. The NGA represents nearly 3,000 member companies and locations, and produces the industry's leading events and publications.

NGA's Mission:

To provide information and education, as well as promote quality workmanship, ethics, and safety in the architectural, automotive and window and door glass industries. The NGA acts as a clearinghouse for industry information, a catalyst in education and training matters, and a powerful voice on behalf of our members.

The NGA provides cutting-edge education and training programs that upgrade technical skills, improve management practices and enhance quality workmanship. From state-of-the-art online training offered through MyGlassClass.com to year-long professional development programs like the Glass Management Institute, the NGA is the industry's preferred resource for technical and professional training. NGA Certifications in auto glass replacement, auto glass repair, and glass installation are recognized as the gold standard of professional quality. Our annual industry events – including GlassBuild America, the Glazing Executives Forum, and the Window & Door Dealers Forum – help unite the industry while serving as a centralized meeting place for thousands of professionals. We also offer timely and relevant information through our various magazines and e-newsletters.

The NGA serves consumers by acting as a resource for everything from locating

professionals to providing information on the latest trends and issues. The NGA publishes consumer guides that offer tips on glass shower enclosures, bathroom designs, windows, and automobile windshields.

NGA members proudly adhere to a code of ethics that engenders public confidence in the integrity and service of glass professionals everywhere. They agree to:

Promote and encourage fair and ethical competition. Fulfill all contractual obligations and respect the contractual obligations of others by not inducing breach of existing contracts. Use safety glazing materials whenever possible and to refuse to sell unsafe products. Maintain a safe work area which provides adequate inventories of glass products and to sell these products at a fair and non-discriminating price. Maintain the highest industry-wide standards of professional and personal conduct. Promote the advancement of the association on both the local and national levels, supporting its goals and objectives.

New Hudson Corporation

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Stand	Hall 13, B54

PRECISION ROLLS FOR THE FLAT GLASS INDUSTRY



New Hudson Corporation

John T. Sukenik founded New Hudson Corporation in 1962. NHC has served the float glass industry since 1965, offering innovative products and services that assist our customers in improving quality and reducing costs. Our complete line of proprietary lehr roller products are well recognized as

proven performers by all of the major glass producers worldwide. New Hudson Corporation is located in New Hudson, Michigan, which is 45 miles northwest of Detroit. In addition to our manufacturing facility in New Hudson, we operate a near-by vertical heat treating facility in Milford, Michigan and by partnership arrangement, float glass lehr roll refurbishing facilities in Chauny, France and Shandong, China.

Exhibitor profile		New Hudson Corporation
Number of employees	–	
Business volume	–	
Export quota	–	
Founding year		
Business segment		

Product Overview		New Hudson Corporation
01.05.01	Float glass technique	
01.05.03	Casting and rolling technology	
01.09.01	Transport systems	
01.09.03	Annealing lehrs, continuous/intermittent operation	
03.01.01	Float and mirror glass	
03.01.05	Thin glass	

Product Details

New Hudson Corporation

01.05.01

Float glass technique

FF800 (MB 800)

New Hudson Corporation has manufactured covered rollers for the float glass industry since 1964. New Hudson was a pioneer in the development of Non Asbestos covered lehr rollers beginning in 1979. Since that time, New Hudson Corporation has manufactured several thousand non-asbestos covered lehr rollers for over (84) float glass plants worldwide.

FF800 (MB 800)

Covered lehr rollers are very common in the flat glass industry-typically used in the B, C, D and RET zones of the annealing lehr. The most frequently used covering material is Tenmat's FireFly 800 (MB 800). Introduced in 1981, a mineral fiber millboard product, FireFly 800 has a long history of successful performance in the float glass industry.

Covered rollers are non-marking, have less affinity for sodium sulfate and dross deposits and provide excellent dimensional stability in the lehr. The primary disadvantage of covered rollers is the occurrence of embedded cullet and vulnerability to cullet damage. The primary types of covering materials are mineral fiber and alumina silicate fiber.

North American Refractories Company

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Phone +1 412 375-6600

Fax

Internet address www.anhrefractories.com

E-Mail glassinfo@anhrefractories.uk

Stand Hall 13, D92



North American Refractories Co.

North American Refractories Co. is part of the ANH Refractories Family of Companies. ANH Refractories is one of the world's largest and most respected suppliers of refractory materials. With lineage that dates back over 100 years, ANH Refractories is the leading provider of refractory solutions to the global industrial market.

ANH Refractories operates more than 17 production facilities spread over 3 continents and manufactures materials under the world recognized brands of A.P. Green, North American Refractories Company, and Harbison-Walker Refractories Company.

North American Refractories Company engineers, manufactures, and supplies a full-line of refractories to support the most demanding glass making applications.

Our Glass Support Team is located in Pittsburgh, PA and Cincinnati, OH with Sales Representatives that cover the United States, Latin America, South America, Europe and Asia.

Our Glass Support Team works closely with each customer to ensure the best possible refractory solutions are met.

Exhibitor profile

North American Refractories Company

Number of employees > 500

Business volume > 100 Mio US \$

Export quota max. 25%

Founding year 1865

Business segment Glass manufacture / Production technology

Company Contacts

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Company News

North American Refractories Company

06/24/2014 ANH Refractories Company Names Stephen M. Delo Chairman and CEO

ANH Refractories Company, North America's largest refractory manufacturer has named Stephen M. Delo as Chairman and Chief Executive Officer, succeeding Gabriel Faimann, the company's former Interim CEO who has left to pursue other career opportunities.

Mr. Delo most recently served as Director - Integrated Supply Chain for Honeywell International's Performance, Materials and Technologies business and has held senior leadership roles of increasing responsibility during his 34 year tenure with Honeywell. He began his career with Honeywell (formerly Allied Chemical) after receiving his Bachelor of Science degree in Chemical Engineering at Louisiana State University, where he also later earned his Masters' degree in Business Administration.

"I am excited to be named Chief Executive Officer for ANH," said Delo. "I look forward to the opportunity to transform ANH's operations and drive long-term growth and sustainability. I am excited to be working with ANH employees to build upon our Company's reputation and develop innovative ways to successfully meet the needs of our customers, as well as expand our markets served and products offered."



Product Overview

North American Refractories Company

01.02.01 Refractory materials

Pacific Consolidated Industries LLC

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E-Mail	oxygen@pcigases.com
Stand	Hall 13, C65-6



Pacific Consolidated Industries LLC

PCI manufactures ruggedized onsite liquid and gaseous oxygen and nitrogen generators for a variety of markets; including Military, Medical, Water & Wastewater Treatment, Industrial, and Oil & Gas markets.

PCI was founded in 1984 to manufacture cryogenic air separation devices for operation in extreme and remote environments. Since then, PCI has continually expanded its technology platforms to include membrane and adsorption (VSA) technology.

We have built thousands of systems that are actively operating and supported in over 25 countries worldwide. Our products enable our customers to produce oxygen and nitrogen at the point of use, effectively eliminating the logistical supply chain associated with delivered product.

PCI's corporate headquarters is located in Riverside, California. The company also maintains a service facility under PCI Canada in Fort Saskatchewan, Alberta to support our oil & gas customers.

PCI's Quality Management System meets the requirements of ISO 9001:2008

and ISO 13485:2003:

Poco Graphite, Inc. An Entegris Company



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Stand	Hall 13, F11



Poco Graphite

Poco Graphite's precision ware handling solutions and unique GLASSMATE® graphite materials can improve performance in container glass production, reduce machine downtime and increase yields. POCO is known for its designs, particularly precision holders and inserts that allow fast accurate machine setup and insert replacement. Standard steel holders are available in several types and sizes. POCO offers a dual function holder that allows for the use of fixed or floating inserts saving you the time of changing the holder when you change the style of insert. Inserts are available as semi-finished blanks, or can be precision machined to a specific finish. GLASSMATE dead plate assemblies combine the strength of a metal support plate with the container compatible surface of a GLASSMATE insert. POCO's lehr stacker bars are available to meet all of your container-handling needs in open, semi-closed, or closed lehr applications. The pocketed design of interlocking pads, coupled with steel mounting channels, create a bar that resists warping and is extremely durable. Application specialists can assist in the selection of the optimum graphite grade based on pickup, application, and length of the production run.

Exhibitor profile

Poco Graphite, Inc. An Entegris Company

Number of employees —

Business volume —

Export quota —

Founding year

Business segment

Company Contacts

Poco Graphite, Inc. An Entegris Company

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Company News

Poco Graphite, Inc. An Entegris Company

06/26/2014 Golden Year for Poco Graphite

Poco Graphite is celebrating 50 years in the graphite business.

Man's desire to explore space and safely return led to the development of specialty materials that could withstand high temperatures during reentry. One of these materials in the race to conquer space was specialty graphite developed by a Texas based aerospace company. This material breakthrough was so unique that technology was acquired by Pure Oil Company in 1964 for further commercialization.

The graphite division became known as POCO, an acronym for the new owner. POCO's specialty graphite's have subsequently been utilized in a variety of applications and markets and its materials portfolio has increased to include a family of graphites, silicon carbides, high temperature materials and a wide variety of post processes and machining capabilities.

POCO's main facility is in Decatur, Texas. The location has expanded multiple times over the years, and now utilizes more than 350,000 sqft and employs over 250 people.

Today POCO is part of Entegris, Inc., a world leader in Semiconductor and adjacent market product solutions.

POCO products are produced for the following major markets: Semiconductor, aerospace, energy storage, biomedical, optics, hot glass handling and electrical discharge machining (EDM). As a producer of highly technical materials, POCO offers exceptional customer support, including specific application information, design capability, and materials testing.

Poco Graphite is ISO 9001:2008 and AS9100:2009 certified.

POCO plans to celebrate this milestone with an open house in the fall.

www.poco.com



Product Overview

Poco Graphite, Inc. An Entegris Company

01.06.17 Aids for the forming of hollow glass

02.11.02 Spare parts and consumables

04.04 Spare and wearing parts

PPG Industries

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Fax

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Exhibitor profile

PPG Industries

Number of employees –

Business volume –

Export quota –

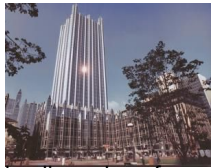
Founding year

Business segment

PPG Industries Inc. Flat Glass



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Stand	Hall 13, B65-1



PPG Industries Inc.

Flat Glass

Since 1883 PPG Industries, Inc. has operated on the leading edge of new technologies and solutions. Recognized for our high performance, solar control, low-e Solarban® products, as well as the renowned Starphire® Ultra-Clear Glass, PPG continues as a frontrunner of global glass products & services. We are a streamline, efficient manufacturer and it is our vision to continue to be a world-leader by serving customers in construction, consumer products, industrial and transportation markets and aftermarkets. PPG has manufacturing facilities and equity affiliates in nearly 70 countries around the globe.

Visit us at www.ppgideascales.com

Exhibitor profile

PPG Industries Inc. Flat Glass

Number of employees	> 500
Business volume	> 100 Mio US \$
Export quota	max. 10%
Founding year	1883
Business segment	Glass manufacture / Production technology

Company Contacts

PPG Industries Inc. Flat Glass

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Company News

PPG Industries Inc. Flat Glass

07/28/2014 PPG to Commemorate 50th Anniversary of SOLARBAN Glass

PITTSBURGH, June 24, 2014 – PPG Industries (NYSE: PPG) is commemorating the 50th anniversary of SOLARBAN(R) glass, a product line that was launched in 1964 under a name that continues to serve as the flagship brand for one of the most advanced lines of solar control, low-emissivity (low-e) glasses.

To mark the gold anniversary of Solarban glass, PPG is hosting a retrospective of modern and historic buildings constructed with Solarban products, both online at www.SolarbanGlassLegacy.com and at major industry trade shows through the end of 2014.

Highlights include one of the first installations of Solarban glass on the Mutual of Omaha Regional Office Building in Miami (now Colonnade Plaza), which was designed by famed Twin Towers architect Minoru Yamasaki, as well as buildings designed by Philip Johnson, SOM, HOK, Fentress, AC Martin, Paul Rudolph,

I.M. Pei and other architectural leaders.

The website and expositions will celebrate the prominence of Solarban glass on many of the country's most iconic skylines and in work by the industry's most respected architectural firms. Advances in environmental glass technology associated with PPG and Solarban glass from the 1930s through today also will be featured.

When it was introduced 50 years ago, Solarban glass presaged the contemporary sustainable building movement by being one of the first coated glasses to reflect heat away from buildings, improving occupant comfort and reducing utility expenses related to HVAC (heating, ventilation and air-conditioning) systems. Since that time, the Solarban family of products has been continually expanded and refined to meet the aesthetic and energy efficiency demands of architects and building owners.

Over the past half-century, developments associated with Solarban glass have ushered in significant advances in architectural glass performance. In 1983, 19 years after launching heat-reflective Solarban glass, PPG debuted its first low-e glasses made with the magnetron-sputtered vacuum deposition (MSVD) coating process. That coating technology, which continues to serve as the platform for the highest-performing low-e coated glasses available today, enabled the development of Solarban 60 glass, introduced by PPG in 1989, and the creation of Solarban 70XL glass, the world's first triple-silver-coated, solar control, low-e glass, introduced by PPG in 2005.

For more about the 50th anniversary of Solarban glass, visit www.SolarbanGlassLegacy.com.

PPG: Bringing innovation to the surface.(TM)

PPG Industries' vision is to continue to be the world's leading coatings and specialty materials company. Through leadership in innovation, sustainability and color, PPG helps customers in industrial, transportation, consumer products, and construction markets and aftermarkets to enhance more surfaces in more ways than does any other company. Founded in 1883, PPG has global headquarters in Pittsburgh and operates in nearly 70 countries around the world. Net sales in 2013 were \$15.1 billion. PPG shares are traded on the New York Stock Exchange (symbol: PPG). For more information, visit www.ppg.com and follow @PPGIndustries on Twitter.

—140624Solarban50thAnniversary—

Bringing innovation to the surface is a trademark and Solarban is a registered trademark of PPG Industries Ohio, Inc.

07/23/2014

NEW! OPTIGRAY Glass

PPG introduces ultra-neutral, light-gray OPTIGRAY glass

New light-gray hue delivers a warm, neutral aesthetic for low-e and uncoated glass

PITTSBURGH, June 16, 2014 — PPG Industries (NYSE:PPG) has introduced OPTIGRAY(R) glass, a warm, ultra-neutral, light-gray glass designed to maximize light transmittance and clarity, and to work with SOLARBAN(R) coated, solar control, low-emissivity (low-e) glasses to enhance solar control performance.

Glenn T. Miner, PPG director of construction, flat glass, said Optigray glass is formulated to offer an extremely light-gray tint that eliminates the green naturally present in conventional clear glass formulations. The result, he adds, is "a highly transparent, super-neutral aesthetic that can actually show less color than clear glass."

To optimize performance, Optigray glass is designed to function as a substrate for solar control, low-e coatings such as those on Solarban 60, Solarban 70XL, Solarban 67 and Solarban R100 glasses. In a standard 1-inch insulating glass unit (IGU), Solarban 60 Optigray glass has visible light transmittance (VLT) of 50 percent and a solar heat gain coefficient (SHGC) of 0.30, which yields a light-to-solar-gain (LSG) ratio of 1.67.

With Solarban 70XL glass in the same configuration, Optigray glass generates an LSG ratio of 1.99 based on VLT of 47 percent and a SHGC of 0.24.

Solar control, low-e, coated Optigray glass joins Solarban z50 glass and the recently announced Solarban z75 glass as the newest additions to a growing collection of high-performing, neutral coated glass from PPG. While coated Optigray glasses provide an extremely neutral warm-gray aesthetic, Solarban z-series glasses offer a cool-gray hue with a slight blue tint. All PPG neutral-coated glasses deliver excellent solar performance.

As part of PPG's wide range of tinted float glasses, Optigray glass features an appearance that is considerably lighter and more subtle than that of SOLARGRAY(R) (light-gray) and GRAYLITE(R) II (rich dark-gray) glasses. Other tinted glasses from PPG are SOLARBRONZE(R), SOLARBLUE(R), PACIFIC(R), ATLANTICA(R), AZURIA(R) and SOLEXIA(R) glasses.

For more information about Optigray glass and other PPG glasses certified through the CRADLE TO CRADLE CERTIFIED(CM) program, visit www.ppgideascape.com or call 1-888-PPG-IDEA (774-4332).

07/30/2014 PPG Launches Online Energy Modeling and Analysis Tool

PITTSBURGH, April 30, 2014 — PPG Industries (NYSE: PPG) has launched an online tool that enables architects and specifiers to model energy costs for a statistically representative 12-story building constructed with selected PPG architectural glazings to optimize daylighting, heat gain, occupant comfort and energy consumption.

Located at <http://glassenergyanalysis.ppg.com>, the tool enables users to specify PPG glass according to visible light transmittance and window type, and to configure the prototype building using inputs for climate zone, building shape and orientation, and window-to-wall ratio. Once data are entered, the tool generates a report using U.S. Department of Energy reference building energy simulation software showing energy costs associated with each of the selected glazings. Cost savings for each architectural glass type are benchmarked against a baseline insulating glass unit (IGU) incorporating two panes of uncoated clear glass.

The finished report presents energy and cost data in 11 categories, including energy use index, electricity usage, gas usage, HVAC (heating, ventilation and air conditioning) cooling load, HVAC air-flow rate, operating electricity savings, operating gas savings, operating energy savings, first-year HVAC cost savings, 10-year energy plus first-year capital cost savings, and emissions reductions. Comprehensive footnotes provide extensive detail about the simulation model.

The PPG Energy Modeling Tool is the latest addition to a suite of Web-based resources to help architects and designers streamline the glass specification process. Others include PPG Glass eVIEW, PPG Glass Education Center, project gallery and a library of Building Information and Modeling (BIM) files.

Visit www.ppgideascape.com to try the tools, or call 1-888-PPG-IDEA (774-4332) to learn more.

PPG: Bringing innovation to the surface.(TM)

PPG Industries' vision is to continue to be the world's leading coatings and specialty materials company. Through leadership in innovation, sustainability and color, PPG helps customers in industrial, transportation, consumer products, and construction markets and aftermarkets to enhance more surfaces in more ways than does any other company. Founded in 1883, PPG has global headquarters in Pittsburgh and operates in nearly 70 countries around the world. Net sales in 2013 were \$15.1 billion. PPG shares are traded on the New York Stock Exchange (symbol: PPG). For more information, visit www.ppg.com and follow @PPGIndustries on Twitter.

—140430PPGGlassModelingTool—

Bringing innovation to the surface is a trademark of PPG Industries Ohio, Inc.

07/28/2014 Solarban 72 Starphire Named A 2013 Product of the Year By USGlass!

PITTSBURGH, April 8, 2014 —

SOLARBAN® 72 STARPHIRE® glass by PPG Industries (NYSE:PPG) has been selected by readers of USGlass magazine as a 2013 Product of the Year.

Designed for exceptional clarity and solar control, insulating glass units (IGUs) made with Solarban 72 Starphire glass feature one lite of uncoated Starphire glass and another with a triple-silver coating engineered specifically for application on a Starphire glass substrate.

In a 1-inch IGU, Solarban 72 Starphire glass has visible light transmittance (VLT) of 71 percent and a solar heat gain coefficient (SHGC) of 0.30, producing a light-to-solar-gain (LSG) ratio of 2.38. That represents a 25 percent improvement in SHGC compared to Solarban 60 Starphire glass and an 11 percent improvement in VLT compared to Solarban70XL glass.

USGlass magazine selects annual Product of the Year Awards based on a reader survey that includes all products from the USGlass Showcase section and Annual New Products Guide.

Winners were announced in 18 categories.

Solarban 72 Starphire glass was selected in the "glass product" category.

To learn more about Solarban 72 Starphire glass, visit www.ppgideascape.com or call 1-888-PPG-IDEA (774-4332).

PPG: BRINGING INNOVATION TO THE SURFACE.™

PPG Industries' vision is to continue to be the world's leading coatings and specialty materials company.

Through leadership in innovation, sustainability and color, PPG helps customers in industrial, transportation, consumer products, and construction markets and aftermarkets to enhance more surfaces in more ways than does any other company. Founded in 1883, PPG has global headquarters in Pittsburgh and operates in nearly 70 countries around the world.



Net sales in 2013 were \$15.1 billion. PPG shares are traded on the New York Stock Exchange

(symbol:PPG). For more information, visit

www.ppg.com and follow @PPGIndustries on Twitter.

Bringing innovation to the surface

is a trademark and Solarban and Starphire are registered trademarks of PPG Industries Ohio, Inc.

Product Overview		PPG Industries Inc. Flat Glass
01.05.01	Float glass technique	
03.01.01	Float and mirror glass	
06	Contracting, consulting, engineering, services	

Product Details		PPG Industries Inc. Flat Glass
01.05.01	Float glass technique	

Technology Licensing

PPG Offers State of the Art Float Glass Technology Licensing:

Oxy-Fuel Technology for Float Glass Furnaces

-High Quality Glass and Coatings:

MSVD CVD Pyrolytic

- Reliable and Consistent Manufacturing Process

- Expert Training and Support

- Cost Advantage for Tinted and Specialty Glass

- Most Flexible Manufacturing Process



03.01.01

Float and mirror glass

Clarvista™ Shower Glass



Normal uncoated glass, and even the leading coated shower glass, is susceptible to corrosion. And corrosion leads to the haze that can make your shower enclosure look dull over time. The true beauty of the tough, smooth surface of Clarvista glass becomes apparent in its ability to resist the corrosive action of moisture, humidity and the chemicals found in many household cleaners.

Clarvista Glass has a coating, fused to the glass, sealing the glass surface to provide a protective barrier. The coating withstands the high temperatures required to thermally temper (strengthen) glass to meet safety codes for shower enclosures. Which is why, with regular maintenance, shower enclosures built with any of the available varieties of Clarvista glass can keep their "like new" look longer.

SOLARBAN® HIGH PERFORMANCE SOLAR CONTROL LOW-E



MSVD Solar Control, Low-E

By nature, low-emissivity (low-e) glass is spectrally selective, meaning long and short wave radiation from the sun (ultraviolet and infrared radiation) are reduced while visible light is still allowed to transmit through the glass. Solar control low-e glass allows you to specify larger spans of glass to maximize natural daylighting without sacrificing thermal efficiency.

For decades, Solarban® solar control, low-e glasses have set the standard for solar control performance in the architectural glass industry. Whether choosing from our variety of double-silver, triple-silver, reflective, neutral, tinted, or ultra clear, Solarban MSVD products give architects an almost limitless selection of aesthetic and environmental performance options.

To find out more information on PPG's collection of high performance solar control low-E glass, please visit our website at www.ppgideascapes.com.

Starphire® Ultra Clear Glass

Building designs that incorporate Starphire glass by PPG have an unmistakably clear goal: to provide a signature element that seamlessly blends the structural and environmental surroundings together!



Because Starphire is available in thicknesses up to one inch and provides the highest level of transparency in the industry, it has been the glass of choice for iconic structures around the world.

In addition, Starphire low iron glass can have as little as 10% of the iron content of regular glass, allowing it to transmit 91% of light, compared to 83% for regular glass and without the greening effect associated with thicker glass panels.

Starphire is designed for a wide variety of interior and exterior commercial applications, including storefronts, entrances, skylights, balustrades, interior partitions and decorative wall panels, spandrels, building facades and showroom windows. When beauty, clarity and functionality are the cornerstones of your design vision, accept no substitutes. Choose Starphire Ultra Clear Glass - the possibilities are endless!

Tinted Glass Options by PPG

PPG offers two families of tinted glasses – the Oceans of Color®-inspired collection and the Earth & Sky collection of classic blue, bronze and gray performance tints.



The Oceans of Color palette is engineered to provide the color options that are in high demand. The collection features four water-inspired tints: aqua-blue Azuria® Glass, emerald green Atlantica® Glass, light green Solexia® Glass and the new strikingly rich blue Pacifica® Glass. In addition to looking great, the Oceans of Color tints provide industry-leading rankings for visible light transmittance, reduced infrared transmittance and low solar heat gain coefficient.

The Earth & Sky collection offers a full range of aesthetic and performance options. From Solarblue® with its high visible light transmittance to the rich tints of Solarbronze® and Solargray® that provide both privacy and solar heat gain control, to the subtle, light gray Optigray (our newest addition), designed to maximize light transmittance and color neutrality, this family of nature-inspired tinted glasses delivers an abundance of energy savings, along with traditional good looks.

If you are seeking heightened levels of solar control, specifying Solarban low-

e products as a second-surface coating on any of our tint options will provide excellent Solar Heat Gain Coefficients and overall performance.

PRAXAIR, Inc



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Doing more

At Praxair, 27,000 employees in 50 countries are working together towards a common goal: making our planet more productive. For more than 100 years, Praxair has taken something as fundamental as air and turned it into ways to make plants operate cleaner and more productively, food taste better, breathing easier and manufacturing processes more efficient – in short, to make all our lives better.

Exhibitor profile		PRAXAIR , Inc
Number of employees	–	
Business volume	–	
Export quota	–	
Founding year		
Business segment		

Product Overview		PRAXAIR , Inc
01.02.02	Industrial gases	
01.04.02	Forehearth technology	
01.04.05	Gas equipment and supply systems	
01.04.06	Regenerative systems	
01.04.09.01	Combustion technology for oil and gas fired smelting furnaces	
01.04.09.02	Combustion technology for oxygen heating systems	
01.04.10	NOx control technology	
01.05.01	Float glass technique	

Process Materials, Inc.

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About us

Process Materials, Inc. believes that our future rests on its corporate values and company culture. We have maintained these values as part of our daily operations since 1997. Process Materials is a leading manufacturer and supplier of consumable materials serving the thin film industry. Products include sputtering targets for flat panel displays, data storage devices, architectural glass, automotive glass, photo-voltaic, optical media, decorative coating, AR, LCD's, hard coatings, etc. We also carry a full line of evaporation materials and have access to all types of precious metals for your coating requirements. Process Materials, Inc. has earned a global reputation for its commitment to quality and service – where trust is as important as technical knowledge.

Exhibitor profile

Process Materials, Inc.

Number of employees —

Business volume —

Export quota —

Founding year

Business segment

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Stand Hall 13, A109

Pyrotek® Improving Glass Manufacturing Performance
Improving Performance

Improve quality and performance, lower costs, and narrow your vendor base with Pyrotek. A global company headquartered in North America, Pyrotek has experienced sales engineers around the world, who will work with you and your production team to decrease valuable time lost due to poor performance of expendable fore hearth refracto-

ries, I.S. machine parts and hot glass ware handling products.

» Expendable Refractory Feeder Parts

» Shear Blades

» I.S. Machine Parts

» Take-out Holders with DuPont™ Vespel® Inserts

» Sweep-outs

» Transfer Wheel Parts

» Stacker Bars

» Glass Bending and Tempering Stainless Steel Fabrics, tapes, ropes and sleeving materials

» Hot glass contact rollers

» Insulation Materials

» Custom fabricated high temperature gaskets and seals

Exhibitor profile		Pyrotek Inc. Corporate Office
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Company Contacts		Pyrotek Inc. Corporate Office
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Company News Pyrotek Inc. Corporate Office

06/17/2014 India container glass plant expands use of DuPont™ Vespel® inserts

Take-out inserts play a pivotal role in the container glass manufacturing process because they must contact newly formed hot glass containers while they're still vulnerable without causing damage. A leading container-glass manufacturer that operates plants throughout India has been using DuPont™ Vespel® SCP-5050 inserts to increase productivity and recently expand their use to more bottle types.



The container-glass manufacturer historically had used metallic tongs and graphite inserts in tandem for the production of beer and soft drink bottles. Initially, Pyrotek worked with the company to substitute those with fully machined Vespel® inserts at one of its plants.

Vespel® SCP-5050 parts and shapes can be custom designed, and their unique properties increase glass plant melt-to-pack ratios by delivering step-changing performance for hot glass ware handling while minimising physical and thermal checking. The SCP-5050 take-out inserts are made from DuPont polyimide resins that have low thermal conductivity and oil absorption, as well as high impact and wear resistance. These unique properties extend life and reduce scrap from checking.

The India container-glass manufacturer found that Vespel® inserts lasted more than twice as long as the graphite inserts, and machine downtime was decreased. They were particularly successful in narrow neck press and blow (NNPB) machines with synchronised motion control.

After this initial success, Pyrotek's technical team introduced Vespel® for similar-sized bottles, such as ketchup and jam. The inserts consistently outperform other materials in terms of reduced checking, higher machine uptime and providing better value.

Pyrotek's global network of technical professionals works with manufacturers to determine which Vespel® insert shape and size will best suit their applications.

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www.pyrotek.info/vespel

Product Overview Pyrotek Inc. Corporate Office

01.02.01	Refractory materials
01.06.17	Aids for the forming of hollow glass
02.11.02	Spare parts and consumables
02.13.01	Components and accessories (suppliers to the glass machinery industry)
03.03.02	Materials

Quantum Engineered Products, Inc.

Address	438 Saxonburg Boulevard 16056 Saxonburg, PA USA
Phone	+1 724 352-5100
Fax	+1 724 352-4443
Internet address	www.quantumforming.com
E-Mail	quantum@quantumforming.com
Stand	Hall 13, B71-3



Quantum Engineered Products, Inc.

Great Containers Start Here.

Quantum is dedicated to the long term success of the glass container industry. Our passion is in helping glass container manufacturers achieve optimal production efficiency. We specialize in improving the critical process of blank side forming. We are committed to helping glassmakers keep glass the best packaging choice.

At Quantum we have been solving container forming problems for nearly four decades. The Quantum Forming System can operate on any IS machine and be used in any container forming process. Throughout the glass container industry the Quantum name is synonymous with innovation and quality.

Exhibitor profile

Quantum Engineered Products, Inc.

Number of employees –

Business volume –

Export quota –

Founding year

Business segment

Product Overview

Quantum Engineered Products, Inc.

01.06.08 Press-blow-machines

Product Details

Quantum Engineered Products, Inc.

01.06.08 Press-blow-machines

glass container forming systems

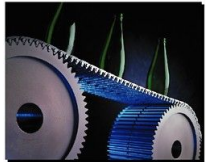
At Quantum, we remain committed to the intelligent engineering of glass container forming systems. Solving your container forming problems is more than just a part of our business, it has been our only business since 1976.

Only Quantum's Forming System can provide glassmakers with the ultimate combination of hardware across all forming processes, and we do it with fewer system parts and on any IS machine.



Ramsey Products Corporation

Address	135 Performance Drive 28102 Charlotte, NC USA
Phone	+1 704 3940322
Fax	+1 704 394-9134
Internet address	www.ramseychain.com
E-Mail	sales@ramseychain.com
Stand	Hall 13, A71



RAMSEY PRODUCTS CORP.

Manufacturer of Silent Conveyor Chain used on IS and Cross Conveyors for Precision Hot End Bottle Handling. Over 79 years of experience. Single pin and two pin design available.

Exhibitor profile

Ramsey Products Corporation

Number of employees —

Business volume —

Export quota —

Founding year

Business segment

RoviSys

Address	1455 Danner Drive 44202 Aurora, OH USA
Phone	+1 330 9958103
Fax	+1 330 5628688
Internet address	www.rovisys.com
E-Mail	sales@rovisys.com
Stand	Hall 14, F40



RoviSys

Get broad, deep and proven resources and experience

Since its founding in 1989 as one of the first control systems integrators in North America, RoviSys has evolved to become a leading independent provider of comprehensive process automation solutions and services. The company has completed more than 2,500 projects for more than 300 companies in nearly 100 industries.

RoviSys delivers value to your company by consistently:

Bringing to each initiative the vision and perspective required to imagine the most beneficial solution for your needs Maintaining your independence by recommending effective combinations of technology and services to achieve that vision Intently focusing on producing meaningful results

With the resources, experience and skills to solve and support practically any process automation and integration challenge, the company's more than 160 engineers, developers and project managers make RoviSys an excellent choice for companies of all sizes looking for real solutions.

RoviSys divisions and services

Process control system engineering and integration Pharmaceutical and biotechnology automation and validation Product development creation, management and engineering services for the entire product lifecycle, featuring Modular Product Development Information integration, including Make-Smart intelligent manufacturing, Overall Equipment Effectiveness, Manufacturing Execution Systems as well as plant floor and plant/business integration Software engineering and project management GrandView Business Systems, which sells and supports the GrandView projects collaboration and management system

Spanning generations of technology

RoviSys is a control system integrator and product development company with a foot planted firmly in the old and the new worlds of technology. Our engineers and developers know proprietary systems: Before joining RoviSys, many of them created some of the most successful large-scale control systems of the last decade.

But more than a decade ago, these same engineers and product developers recognized that companies investing in the most proprietary of systems wanted something more—the freedom to choose the best available technologies and solutions with alternatives for support and upgrades. In short, they wanted open systems. RoviSys was founded in 1989 to fulfill those wants.

The RoviSys commitment is simple: provide clients with world class information integration and process controls using the best available components and platforms, regardless of who makes them. In short, give clients choices.

Do open markets require open systems? No. But the benefits of open systems make their own case— The ability to choose the best solution from all alternatives, multiple sources of support, including in-house, better performance, more features and lower costs to implement and own.

We founded RoviSys as an independent control system integrator because we felt systems owners wanted those freedoms, to be enabled, not restrained.

And the best way to provide truly independent solutions? Be truly independent.

Exhibitor profile		RoviSys
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Product Overview		RoviSys
05.03.04	Process control systems	
05.03.05	Other control systems	
06	Contracting, consulting, engineering, services	

Shimadzu Precision Instruments, Inc.

Address	2340-C Walsh Ave. 95051 Santa Clara, CA USA
Phone	+1 408 566-0960
Fax	+1 408 566-0961
Internet address	www.spi-sie.com
E-Mail	yasuko@spi-sie.com
Stand	Hall 12, E06

Exhibitor profile

Shimadzu Precision Instruments, Inc.

Number of employees	—
Business volume	—
Export quota	—
Founding year	
Business segment	

Sono-Tek Corporation

SONO-TEK Corporation

Address	2012 Route 9 W. 12547 Milton, NY USA
Phone	+1 845 795-2020
Fax	+1 845 795-2720
Internet address	www.sono-tek.com
E-Mail	info@sono-tek.com
Stand	Hall 15, D21

The world leader in ultrasonic glass coating

Sono-Tek Corporation is the world leader in ultrasonic spray systems for applying precise, thin film coatings. We are a green technology company, creating patented high performance ultrasonic spray coating technology for float glass manufacturing, electronics manufacturing, medical, industrial and nanotechnology industries, supplying superior coating solutions to companies globally.

Our environmentally friendly ultrasonic spray coating systems result in superior performance coatings, with dramatic reductions in overspray, savings in raw material, water and energy usage, improved process repeatability and transfer efficiency, greater uniformity and reduced emissions.

Exhibitor profile		Sono-Tek Corporation
Number of employees	31-100	
Business volume	5-20 Mio US \$	
Export quota	max. 75%	
Founding year	1975	
Business segment	Glass manufacture / Production technology, Glas processing and finishing, Glass products and applications	

Product Overview		Sono-Tek Corporation
01.10.05	Separator applying machines	
01.12.01	Hot end coating	
01.12.02	Cold end coating	
01.12.03	Strengthening coating	
01.14.04.05	Coating systems	
01.14.06.02	Coating/sputtering systems	
02.14	Nanotechnology	
03.03.01.04	Nano coating technology	

Product Details		Sono-Tek Corporation
01.10.05	Separator applying machines	

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

Sono-Tek's WideTrack Dual Jet coating system applies uniform nanolayer anti-stain organic acid solutions (typically Malic, Maleic, Adipic acids) onto float glass to prevent Stage I and Stage II corrosion. This highly effective inline protection against glass staining is used as an alternative to or in conjunction with powder anti-stain coating processes for the best protection of float glass during transportation and storage. With excellent turn down ratio, including on-the-fly control of deposition quantity for adjusting to ribbon speed changes, the WideTrack system offers significant advantages over pressure spray systems. Ultrasonic spray nozzles are non-clogging and produce almost no overspray, making the WideTrack Dual Jet system environmentally friendly, and often eliminating ventilation/exhaust requirements. Float glass manufacturers have the flexibility to spray different chemistries for varied coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible "Stain Retard 101" mixture, or barely visible "Irristop" mixture using the WideTrack system.



01.12.01 Hot end coating

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

Sono-Tek's WideTrack Dual Jet coating system applies uniform nanolayer anti-stain organic acid solutions (typically Malic, Maleic, Adipic acids) onto float glass to prevent Stage I and Stage II corrosion. This highly effective inline protection against glass staining is used as an alternative to or in conjunction with powder anti-stain coating processes for the best protection of float glass during transportation and storage. With excellent turn down ratio, including on-the-fly control of deposition quantity for adjusting to ribbon speed changes, the WideTrack system offers significant advantages over pressure spray systems. Ultrasonic spray nozzles are non-clogging and produce almost no overspray, making the WideTrack Dual Jet system environmentally friendly, and often eliminating ventilation/exhaust requirements. Float glass manufacturers have the flexibility to spray different chemistries for varied coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible "Stain Retard 101" mixture, or barely visible "Irristop" mixture using the WideTrack system.



01.12.02

Cold end coating

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

Sono-Tek's WideTrack Dual Jet coating system applies uniform nanolayer anti-stain organic acid solutions (typically Malic, Maleic, Adipic acids) onto float glass to prevent Stage I and Stage II corrosion. This highly effective inline protection against glass staining is used as an alternative to or in conjunction with powder anti-stain coating processes for the best protection of float glass during transportation and storage. With excellent turn down ratio, including on-the-fly control of deposition quantity for adjusting to ribbon speed changes, the WideTrack system offers significant advantages over pressure spray systems. Ultrasonic spray nozzles are non-clogging and produce almost no overspray, making the WideTrack Dual Jet system environmentally friendly, and often eliminating ventilation/exhaust requirements. Float glass manufacturers have the flexibility to spray different chemistries for varied coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible "Stain Retard 101" mixture, or barely visible "Irristop" mixture using the WideTrack system.



01.12.03

Strengthening coating

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

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ing the WideTrack system.

01.14.04.05

Coating systems

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

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01.14.06.02

Coating/sputtering systems

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

Sono-Tek's WideTrack Dual Jet coating system applies uniform nanolayer anti-stain organic acid solutions (typically Malic, Maleic, Adipic acids) onto float glass to prevent Stage I and Stage II corrosion. This highly effective inline protection against glass staining is used as an alternative to or in conjunction with powder anti-stain coating processes for the best protection of float glass during transportation and storage. With excellent turn down ratio, including on-the-fly control of deposition quantity for adjusting to ribbon speed changes, the WideTrack system offers significant advantages over pressure spray systems. Ultrasonic spray nozzles are non-clogging and produce almost no overspray, making the WideTrack Dual Jet system environmentally friendly, and often eliminating ventilation/exhaust requirements. Float glass manufacturers have the flexibility to spray different chemistries for varied coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible "Stain Retard 101" mixture, or barely visible "Irristop" mixture using the WideTrack system.



coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible “Stain Retard 101” mixture, or barely visible “Irristop” mixture using the WideTrack system.

02.14

Nanotechnology

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

Sono-Tek's WideTrack Dual Jet coating system applies uniform nanolayer anti-stain organic acid solutions (typically Malic, Maleic, Adipic acids) onto float glass to prevent Stage I and Stage II corrosion. This highly effective inline protection against glass staining is used as an alternative to or in conjunction with powder anti-stain coating processes for the best protection of float glass during transportation and storage. With excellent turn down ratio, including on-the-fly control of deposition quantity for adjusting to ribbon speed changes, the WideTrack system offers significant advantages over pressure spray systems. Ultrasonic spray nozzles are non-clogging and produce almost no overspray, making the WideTrack Dual Jet system environmentally friendly, and often eliminating ventilation/exhaust requirements. Float glass manufacturers have the flexibility to spray different chemistries for varied coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible “Stain Retard 101” mixture, or barely visible “Irristop” mixture using the WideTrack system.



03.03.01.04

Nano coating technology

WideTrack Dual Jet Anti-Stain Ultrasonic Coating System

Sono-Tek's WideTrack Dual Jet coating system applies uniform nanolayer anti-stain organic acid solutions (typically Malic, Maleic, Adipic acids) onto float glass to prevent Stage I and Stage II corrosion. This highly effective inline protection against glass staining is used as an alternative to or in conjunction with powder anti-stain coating processes for the best protection of float glass during transportation and storage. With excellent turn down ratio, including on-the-fly control of deposition quantity for adjusting to ribbon speed changes, the WideTrack system offers significant advantages over pressure spray systems. Ultrasonic spray nozzles are non-clogging and produce almost no overspray, making the WideTrack Dual Jet system environ-



mentally friendly, and often eliminating ventilation/exhaust requirements. Float glass manufacturers have the flexibility to spray different chemistries for varied coating visibility requirements – highly visible Adipic/Maleic/Malic acid mixture, slightly visible “Stain Retard 101” mixture, or barely visible “Irristop” mixture using the WideTrack system.

Spartan Felt Company

Address	151, Felt Drive 29376 Roebuck USA
Phone	+1 864 5767919
Fax	+1 864 5744509
Internet address	
E-Mail	cdickson@spartanfelt.com
Stand	Hall 15, D45

Exhibitor profile

Spartan Felt Company

Number of employees	–
Business volume	–
Export quota	–
Founding year	
Business segment	

Spectrum Glass Company, Inc.



Address	24105 Sno-Woodinville Road 98072 Woodinville, WA USA
Phone	+1 425 483-6699
Fax	+1 425 483-9007
Internet address	www.spectrumglass.com
E-Mail	info@spectrumglass.com
Stand	Hall 09, D04-1



About Spectrum Glass Company, Inc.

Spectrum is a manufacturer of specialty sheet glass for use in architecture, fine arts, hobby-craft, lighting and other applications. We produce nearly 350 sheet glass products including: Waterglass(R), Baroque TM, Artique(R), System 96 (R), Iridescent Glass, as well as many multi-color mixes and textured colors.

Product Overview

Spectrum Glass Company, Inc.

03.01.12	Decorative colored glass
03.01.15	Cross out glass for melting/Fusing glass
03.01.11	Tiffany glass

Sputtering Components, Inc.

Address	5625 Brisa Street, Suite B 94550 Livermore, CA USA
Phone	+1 507 455-9140
Fax	+1 507 455-9148
Internet address	www.sputteringcomponents.com
E-Mail	sales@sputteringcomponents.com
Stand	Hall 12, E07



About Us

Products

Sputtering Components, Inc. (SCI) is a leading manufacturer of internal and external rotary cathodes and related components. We specialize in highly reliable and user friendly designs with the highest power ratings available. Our products are known for their process stability and ease of maintenance, ensuring the lowest cost of ownership in the industry. SCI magnets are designed to ensure high quality, uniform coatings for your application.

SCI can provide components or turnkey solutions to meet your requirements.

Simulation, Testing, R&D

We use advanced software to model magnetic fields and low pressure gas flow dynamics. Gas manifolds models are optimized using molecular and transition flow analysis software.

Target tubes and other mechanical parts are designed for long-term operation by reducing the stress concentrations to safe levels. SCI also has state of the art thermo-dynamic flow simulation capability to model heat transfer within sput-

tering targets.

Using our in-house test chamber, SCI can perform quick-turn prototyping and test customized results. Customers can evaluate their process in SCI's test system to verify key parameters such as deposition rate, process stability, and film properties.

Manufacturing

SCI has the most modern machining equipment, using the latest technology available. By manufacturing in-house, we have direct control over our quality and our schedule. Our manufacturing operation uses high precision CNC machining centers to fulfill a variety of needs. All equipment is regularly maintained and calibrated to ensure 100% repeatability and accuracy.

All lid systems are programmed by trained personnel and fully tested prior to shipping. Components are cleaned and assembled to ensure each order is built according to the customer requirements. Final assemblies are bagged and packaged with care to ensure they arrive safely at the customer site.

Quality

We employ a coordinate measuring machine (CMM), which allows exact measurement of manufactured parts to accuracies of 0.0003 inches.

SCI uses an ISO compliant quality system which governs all aspects of our design and manufacturing process.

Every product is quality-checked before leaving SCI; magnet assemblies are characterized using our 3-D magnetic mapping tool, and cathode components are water and vacuum leak checked.

Service and Support

Our staff walks with the customer through every step of the process to ensure a quality product that meets their needs. We provide service and support worldwide through our in-house service technicians and our conveniently located sales and service representatives.

Exhibitor profile

Sputtering Components, Inc.

Number of employees —

Business volume —

Export quota —

Founding year

Business segment Glas processing and finishing

Stewart Engineers, Inc

Address 11640 NorthPark Drive, Suite 100
27587 Wake Forest, NC
USA

Phone +1 919 435-9100

Fax +1 919 435-9101

Internet address www.stewartengineers.com

E-Mail info@stewartengineers.com

Stand Hall 13, D112

FLOAT BATH AND ON-LINE COATING SYSTEMS

Stewart Engineers is a supplier of leading edge float bath and on-line pyrolytic glass coating systems to the worldwide glass industry. For 24 years, we have been providing turnkey systems that include engineering, procurement, technical services, construction, project management and on-going support.

StewartFloat® furnace is engineered to produce Automotive, Architectural, Ultra-thin, Ultra-thick, Ultra-clear, and/or Borosilicate glass products. This customized design package includes tonnage, thickness, ribbon ">

AcuraCoat® high performance pyrolytic on-line glass coating system consists of single flow, dual flow, and/or lehr gap coaters capable of producing Reflective, Low E, Solar Control, PV-TCO, Anti-Reflective, and Self Clean hard coatings.

AcuraFloat® a proprietary float bath furnace design totally integrated and optimized for ultra-clear pyrolytic TCO coating systems.

We are committed to meeting any challenge. Through our dedication to innovation, honoring our commitments, providing results, and striving for the highest quality, we ensure that our customers receive the best products and services in the industry.

Exhibitor profile Stewart Engineers, Inc

Number of employees	11-30
Business volume	5-20 Mio US \$
Export quota	> 75%
Founding year	1986
Business segment	Glass manufacture / Production technology, Contracting, Consulting, Engineering, Services

Company Contacts Stewart Engineers, Inc

Department/Name	Address
David Mackey	Stewart Engineers USA-Wake Forest North Carolina Phone: 1.919.435.9100 Fax: 1.919.435.9101 dmackey@stewartengineers.com

Product Overview Stewart Engineers, Inc

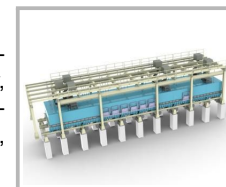
01.05.01	Float glass technique
01.11.01	UV-Absorption-Coating (pyrolytic)
01.11.02	IR-Reflective Coating (pyrolytic)
05.01.01	Measurement and control
05.01.01.05	Measurement and control of glass temperature
05.01.01.07	Measurement and control of glass colour
06	Contracting, consulting, engineering, services

Product Details Stewart Engineers, Inc

01.05.01	Float glass technique
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StewartFloat®

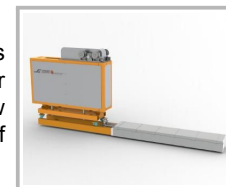
StewartFloat® furnace is engineered to produce Automotive, Architectural, Ultra-thin, Ultra-thick, Ultra-clear, and/or Borosilicate glass products. This customized design package includes tonnage, thickness, ribbon width, automation level, and sourcing selection.



01.11.02	IR-Reflective Coating (pyrolytic)
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AcuraCoat®

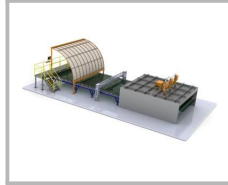
AcuraCoat® high performance pyrolytic on-line glass coating system consists of single flow, dual flow, and/or lehr gap coaters capable of producing Reflective, Low E, Solar Control, PV-TCO, Anti-Reflective, and Self Clean hard coatings.



05.01.01.07	Measurement and control of glass colour
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AIS100/AIS200-On-Line Glass and Glass Coating Inspection Sys

The AIS 100/AIS 200 on-line Glass and Glass Coating inspection systems have been designed to provide the quality data needed to on-line monitor and open-loop control CVD coatings on float glass. These systems are of modular construction and utilizes optical technology, allowing a scalable selection of instruments, calibrations and software that are determined by the user's needs. The AIS 100 is utilized at the cold end after the annealing lehr on the open section of the inspection conveyor while the AIS 200 is employed at the earliest possible position in the process (between the float bath and the annealing lehr or lehr A0 section). FEATURES Full Automatic or Manual Timed Cycle Scan Traverse Scan Multiple Spot Scan Operator Adjustable Quality Alarm Levels Data Logging and Printing Local Remote Rugged and Robust Build System Capabilities Reflective Color Uniformity Repeatability Emissivity Reflectance Coating Thickness



06

Contracting, consulting, engineering, services

Other Products & Services

Our products and services are provided with a commitment to proven engineering practices combined with professional integrity. Stewart Engineers specializes in the supply of its proprietary float bath furnaces and On-Line Pyrolytic CVD Systems. In addition, Stewart Engineers has been extensively involved in, and assisted others in the realization of their float glass plant components.



Strainoptics, Inc.

Address	108 West Montgomery Avenue 19454 North Wales, PA USA
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Fax	+1 215 699-7028
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E-Mail	stress@strainoptics.com
Stand	Hall 12, C30

Strainoptics is the world's leading..

..manufacturer of non-contact, non-destructive stress measurement instrumentation to the glass and plastics industries.

In addition to the internationally recognized GASP® surface polarimeter, our product line encompasses a complete range of instruments, from simple strain viewers and polarimeter systems to specialized on-line and off-line equipment for measuring stress and other optical properties in a wide range of materials, including:

Float glass
Architectural glass
Automotive glass
Electronic glass
Container glassOptical/scientific glass
Plastic film
Molded products
Medical packaging
Medical devices

Exhibitor profile

Strainoptics, Inc.

Number of employees	5-10
Business volume	1-2,5 Mio US \$
Export quota	max. 50%
Founding year	1985
Business segment	Measurement, testing, control technology and software

Company Contacts

Strainoptics, Inc.

Department/Name Address

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Product Overview

Strainoptics, Inc.

05.01.01.06	Measurement and control of glass tension
05.01.02.01	Surface, contour and imperfection measurement and control

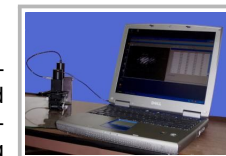
Product Details

Strainoptics, Inc.

05.01.01.06

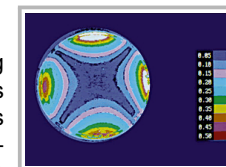
Measurement and control of glass tension

AUTO-GASP surface stress polarimeter



With the new AUTO-GASP, you can automatically measure surface stress with Point-and-Click Speed and Convenience! Includes Video GASP, licensed software, and cables. Conversion kit available for existing Video GASP or Laser GASP customers. Works with Windows XP or VISTA desktop or laptop computers with two available USB ports. No data board required. Stores images and data for later retrieval and/or analysis. Multiple licenses available.

DIAS-1600 Stress Analyzer



The DIAS-1600 Stress Analyzer uses digital imaging technology for stress inspection applications. This PC-based system is used for quality control, process control, failure analysis, product development, and research to ensure that residual stresses remain within specified limits. This package is ideal for products in which very low stresses can hamper product performance, such as optical components, lenses, compact disks, annealed parts, glass seals, TV glass, etc

GES-100 Edge Stress Meter



The GES-100 Edge-Stress Meters are light, portable, battery-operated instruments that are specially designed to measure edge stress in annealed, heat-strengthened, and tempered glass. These instruments are used for non-destructive, precision measurement in accordance with ASTM test method C-1279. GES-100 Edge Stress Meters can be used on both flat and curved glass. Models include: GES-100 Edge-Stress Meter Includes a double-wedge compensator, generally used for tempered glass applications. GES-100-MWA Edge-Stress Meter General-purpose instrument includes a single-wedge compensator. GES-100-MWA-HS High Sensitivity Edge-Stress Meter Special model for annealed glass measurement or other low-stress applications where greater measurement sensitivity is desired

Laser GASP® Surface Stress Polarimeter

Strainoptics' GASP® Polarimeter is a portable instrument for measuring surface stress in heat-strengthened and tempered glass. It can also be used to confirm stress-relief in annealed glass and to validate furnace settings for manufacturers of safety glass. The standard GASP model is for flat or slightly curved surfaces, while the GASP-CS version is designed to accommodate a curvature greater than 8 inches (200 mm). Both models may be ordered with either a laser or fiberoptic light source. The laser model features a rechargeable battery pack and offers the broadest range of measurement, up to 25,000 psi (180 MPa). Strainoptics' GASP® polarimeters are: Non-destructive Easy to operate Compliant with all industry specifications, including ASTM C1048, C1279 and CE marking requirements. For in-plant or field use



New Surface Stress Meter Features Built-In LCD Monitor

The Strainoptics LCD-GASP® polarimeter enables convenient and non-destructive measurement of surface stress in architectural, automotive, and solar glasses. A built-in LCD video monitor replaces the standard eyepiece, displaying an enlarged image that can be used for assuring close control of temper level or annealing, while reducing eye fatigue and parallax errors.



Widely used to comply with industry and government standards for surface compression, the instrument is available in versions designed for flat, slightly curved, or low-transmittance glass. The standard model is for soda lime float glass, but borosilicate and some other glasses are available on special order. A PC-based version is also offered that provides automated reporting and data storage of measurements.

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Tel: 215-661-0100
Fax: 215-699-7028
Email: stress@strainoptics.com

Internet: www.strainoptics.com

PES-100 Portable PC-Based Edge Measurement System

The Model PES-100 automates the off-line measurement of edge stress in automotive, as well as other glass applications. It uses the company's patented, non-destructive stress measurement technology, combined with proprietary and user-friendly Windows-based software and a PC workstation, to provide fast, accurate and repeatable readings of residual stress required for QC of automotive glazing. Because the process is almost entirely automated, no special operator training or skills are required. To obtain an automatic measurement of stress in a particular sample, the operator simply passes a lightweight scanning probe along several small (typically 2 to 4 inch) segments of the edge being inspected. The software reports the maximum tensile and edge-compression stress values for each edge scan and also displays a graph of stress vs. position on the computer's monitor. The entire process takes only seconds to complete.



Roll Wave Gauges

Roll wave distortion can be visually observed in tempered and heat-strengthened glass. The heat treatment process can cause the glass to bow and warp, viewed as ripples or optical distortion of reflected images. Strainoptics manufactures two basic types of manually operated roller-wave gauges, the "flat-bottom" type and the "3-point contact" design. Each can be used with test methods published by the Glass Association of North America (GANA) and ASTM.



VRP-100 Reflection Polarimeter

The VRP-100 Reflection Polarimeter System enables fast, accurate, and non-destructive measurement of residual stress in automotive windshields and other glass products containing black bands or painted areas. In fact, sensitivity and precision of the system is effectively twice that of transmissive systems. It is currently in use by many of the world's leading automobile manufacturers and automotive



glass fabricators. The VRP-100 permits accurate stress measurement within the black painted band, without the need for removing paint or making special parts. The polarimeter provides a full-field view of the edge region, allowing the operator to recognize problem areas at a glance. A reflective target allows clear areas of the glass to be measured. Options include a calibration gauge and a high-intensity illuminator for measuring in transmissive mode. In addition to high-efficiency polarization optics, the VRP-100 system is supplied with a 150-watt fiberoptic illuminator and a color-enhanced Senarmont analyzer. Measurements are read directly from a calibrated scale.

Strutz International, Inc.

Address	440 Mars-Valencia Road 16046 Mars, PA USA
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Internet address	www.strutz.net
E-Mail	engineering@strutz.com
Stand	Hall 13, B65-4

Leading Manufacturer Of Glass Decorating Machines

In the early 1950's Carl Strutz Sr., a German immigrant and his two sons, Frank and Carl Jr. began operation of a small machine shop near Pittsburgh, Pennsylvania. They provided customers with job shop machining and custom assembly services. The company incorporated in 1953 as Strutz Fabricators, Inc.

Their involvement in the glass industry began when a local glass factory contracted them to build a special machine to print labels on glass beverage bottles. The collaboration yielded the first STRUTZ glass decorating machine. It was a semi-automatic screen decorator, requiring the operator to manually load a glass container onto the machine. Labels were transferred onto the container's surface through an ink filled screen tray bearing a graphic design. Image quality depended on how well the label design could be transferred onto the glass

container without smearing or smudging, and with good color-to-color registration. Sharp images depended on precise synchronization between the glass container and the screen. This remains the key to high quality images that STRUTZ machines produce today.

In the early 1960's, Strutz Fabricators developed the CS100, the first STRUTZ automatic glass decorator. It operated with other machines in a glass factory using a system of interconnected conveyors. Glass bottles were loaded onto the automatic decorating machine from a conveyor, screen decorated in multiple colors, and then unloaded onto another conveyor. Speeds exceeding 100 bottles per minute could be achieved using this process.

Today's STRUTZ glass decorators can operate at speeds exceeding 150 bottles per minute and can decorate bottles in four colors with excellent color-to-color registration. The level of performance and quality found in our decorators are not available on any other glass decorator product in the world. Additionally, we offer six color, high speed tumbler decorators capable of speeds of 75 bottles per minute;lehr cross conveyors; single liners; stackers and specialty container decorators. We even offer an improved version of the original semi-automatic decorator that revolutionized the glass industry in the early days of the company's history.

Today, Strutz International, Inc. is owned and operated by Carl Strutz Jr. and Frank Strutz, Sr.* Our decorators are machined and assembled by experienced craftsmen as they were over 40 years ago. We continue to progress as the world leaders in the glass decorating industry through our commitment to our customers and by the quality of our machines.

Product Overview

Strutz International, Inc.

01.09.02	Stacker systems
02.03.08.01.04	Other screen printing machines

TECO Toledo Engineering Co., Inc.



Address	3400 Executive Parkway 43606-2927 Toledo, OH USA
Phone	+1 419 537-9711
Fax	+1 419 537-1369
Internet address	www.teco.com
E-Mail	sales@teco.com
Stand	Hall 13, A65

Toledo Engineering Co., Inc.

TECO design and construct on a turn-key basis float glass furnaces including fuel-fired regenerative, recuperative, oxy-fuel and electric. TECO also supply electric boost systems, forehearth, batch plants, emission and process control systems.

Exhibitor profile		TECO Toledo Engineering Co., Inc.
Number of employees	–	
Business volume	–	
Export quota	–	
Founding year	1929	
Business segment	Glass manufacture / Production technology, Tools, replacement and spare parts, auxiliary equipment and fittings, Measurement, testing, control technology and software, Contracting, Consulting, Engineering, Services	

Product Overview

TECO Toledo Engineering Co., Inc.

01.05.01 Float glass technique

TUFF TEMP CORPORATION

Address	3788 Sterner Mill Road 18951 Quakertown, PA USA
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Internet address	www.tufftemp.com
E-Mail	sales@tufftemp.com
Stand	Hall 13, B106



Heat Resistant Textiles & Belts

Manufacturers and suppliers of high temperature, heat resistant, abrasion resistant textile conveyor belts, Kevlar Oven Roller Tapes for Glass Tempering machines, Endless Belts and Pads for aluminum extrusion handling systems. Kevlar and other high temperature resistant Pads, Tapes, Ropes, Gaskets, Tubing, and Roller

Covers for the glass making industry and aluminum extrusion handling systems as well as for any industry that requires high quality, heat resistant and abrasion resistant textile products. Also have a complete fabrication department to custom manufacture Kevlar pads.

Exhibitor profile		TUFF TEMP CORPORATION
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year		
Business segment		

Product Overview		TUFF TEMP CORPORATION
01.07	Equipment for glass tube production	
02.11.01	Tools	
02.11.02	Spare parts and consumables	
02.11.03	Insulating materials	
02.13.01	Components and accessories (suppliers to the glass machinery industry)	
03.03.04	Tools	

Product Details		TUFF TEMP CORPORATION
01.07	Equipment for glass tube production	

CONVEYOR BELTING

TUFF TEMP Corp. has designed and developed a family of unique high temperature resistant belting products that are ideal for use as conveyor belting within the hot end of primary glass plants and aluminum extrusion plants



For conveyance applications in severe manufacturing processes such as hot glass and / or hot aluminum, conveyor belting must exhibit superior temperature resistance, superior cut and abrasion resistance, and superior mechanical performance. Conveyor belting must also be totally non-marking and be safe for the finish quality of the customer's product.

We understand that our customers are typically running their manufacturing plants 24 hours a day, 7 days a week, 365 days a year. Any downtime that the customer experiences in manufacturing is unrecoverable, permanently lost revenue. With that mindset, our focus is to supply the longest lasting, most durable conveyor belts in the world, so that our customers can achieve the longest continuous production runs, with minimal costly maintenance down-time.

TUFF TEMP's line of conveyor belting products has been uniquely engineered to meet all of these criteria, and it is our mission to provide our customers with the absolute longest belting wear life.

02.13.01	Components and accessories (suppliers to the glass machinery industry)
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COMBO BELTING

TUFF TEMP CORP. has recently developed two highly innovative breakthrough conveyor belts, that has been designed and engineered for the very hottest and most severe conveyance applications.



Known as our "Combo Belt" & "Blended Belt", these high-density, up to 5/16" (8 mm) thick, 4-ply belts are woven with a blend of multiple specialty high temperature and abrasion resistant textile fibers (including Stainless Steel Textiles). By blending multiple specialty textile fiber types, TUFF TEMP is able to leverage the unique performance properties of each fiber to create an overall more durable belt that can withstand higher levels of temperature and abrasion.

TUFF TEMP "Combo Belts" and "Blended Belts" are now being used in many of the world's leading Ovenware and Tableware plants, where ware temperatures are amongst the very hottest in the glass industry. Within these plants these new belts are already used to convey large and heavy ware types that still may be glowing red hot when contacting the belt. TUFF TEMP "Combo Belts" and "Blended Belts" offers outstanding durability and performance in such applications, with unmatched belt wear life.

In fact, one recent Tuff Temp customer reported that they are saving more than \$ 100 per day per belt line in energy costs alone. Their plant manager commented

that based on energy cost savings alone, "Is like we are getting the belts for free!"

If you are seeking longer wear life from your hot end conveyor belting to increase your production throughput, please feel free to contact one of our highly qualified Sales Engineers. Samples of our new "Combo and Blended Belting" can be provided for testing and evaluation in your plant.

Tyflong International Inc.

Address	606, Pena Drive, 100 95618 Davis USA
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Internet address	www.tyflong.com
E-Mail	
Stand	Hall 12, F39

Tyflong - Cerium Oxide Polishing Powder

Since 2001, Tyflong has been supplying high quality and consistent cerium oxide glass polishing powders for the flat glass/mirror and precision optics industries.

Exhibitor profile		Tyflong International Inc.
Number of employees	—	
Business volume	—	
Export quota	—	
Founding year	2001	
Business segment	Glas processing and finishing, Tools, replacement and spare parts, auxilliary equipment and fittings	
Product Overview		Tyflong International Inc.
02.03.05	Polishing technology	

Uroboros Glass Studios, Inc.

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Stand	Hall 09, D04-2

About Uroboros Glass

Our Portland, Oregon manufacturing facility is located in the beautiful Pacific Northwest of the United States. Founded in 1973 by glass artist Eric Lovell,

Uroboros Glass pushes the limits of technology and traditional handmade craftsmanship to bring you the finest glass in the world.

We make art glass in more than 150 sophisticated color combinations available in over a dozen styles and textures. We also make high quality fusible glass products at two expansion points - 90 COE and System 96® - to satisfy the most discriminating hot glass fan. Our fusible glass undergoes the most rigorous expansion testing in the industry.

We pride ourselves in being environmentally conscious. We reuse and recycle materials in myriad ways, and choose environment-friendly packaging whenever possible. Uroboros also strives to make the workplace as safe as possible for our greatest asset, our employees.

Should you find yourself in Uroboros country, please stop by and say hello!

What's a Uroboros?

Uroboros is an alchemist's term often represented by a dragon symbolizing the cyclical Nature of the Universe. The uroboros has its tail in its mouth creating a circle of renewal or life everlasting. Our name honors the traditions and lore of medieval alchemists as they struggled to turn non-precious lead into precious gold. Today, we use non-precious sand to make some of the most precious hand-cast art glass available in the world.

Exhibitor profile

Uroboros Glass Studios, Inc.

Number of employees —

Business volume —

Export quota —

Founding year

Business segment

Wissmach Glass Company, Inc.

Address	420 Stephen Street 26159 Paden City, WV USA
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Stand	Hall 09, D04-3



Wissmach Glass

Since 1904, The Paul Wissmach Glass Company's customers have provided an endless source of inspiration, resulting in some of the industry's finest glasses.

Wissmach glass is incredibly well tempered. There are no internal stresses, so scoring and breaking are extremely easy. Colors can flow from one area to the next in transitions that are virtually seamless. For example, you can move from a grey background to dark blue and purple to blue-green, a wonderful ground cover.

Wissmach offers plenty of vivid colors for flowers, greens for all types of foliage, and subtle colors to join them together. The glass looks beautiful in reflected light, making it ideal for mosaic work. Wissmach colors are indistinguishable from the glass employed in early Tiffany Studios mosaics.

Over the years, Wissmach has consistently developed new glasses to meet its customers' demands such as Corella Classic, English Muffle and Mystic.

For the fusing market, Wissmach Glass makes COE 90 and COE 96 products. Wissmach 90 and Wissmach 96 come in thicknesses of 2mm, 3mm, 4mm, 5mm, and 6mm.

Initially introduced at Glasstec 2012 are 11 Wissmach colors that can be tempered in 18 different textures. Please contact Wissmach Glass for additional information or stop by the Wissmach stand while attending Glasstec to discuss this unique temperable art glass product.

Although new glasses are continually introduced into the company's line, many of the batches used by Wissmach in the early 1900's are still used today. The highest product quality and customer service are hallmarks of The Paul Wissmach Glass Company.

Exhibitor profile		Wissmach Glass Company, Inc.
Number of employees	—	
Business volume	—	
Export quota	> 75%	
Founding year	1904	
Business segment	Glass manufacture / Production technology, Glass processing and finishing, Glass products and applications	

Company Contacts		Wissmach Glass Company, Inc.
Department/Name	Address	
Mark Feldmeier	Wissmach Glass Company USA-26159 Paden City, West Virginia Phone: 304-337-2253 Fax: 304-337-8800 wissmach@frontier.com	

Company News

Wissmach Glass Company, Inc.

06/13/2012 Wissmach Glass Company Introduces Temperable Art Glass in 11 different colors and 18 Textures

For more than 110 years the Paul Wissmach Glass Company Inc. in Paden City, West Virginia, U.S.A., has been creating colorful, rolled sheet glass for use in stained glass work. Five years ago the company decided it was time to take on a new territory. "We have been producing glass for over 110 years for the art glass industry for uses in Tiffany lamp shades, church windows, fusing, the hobby market, etc.," says Mark Feldmeier, president of the Paul Wissmach Glass Co. "With the decline in the art glass industry, due primarily to the difficult economic times of the last few years, we decided that we needed to develop an art glass product that could reach new markets." Thus, the company decided to create its own temperable art glass. "We came up with the idea in September 2008 to develop a temperable art glass with a variety of colors and patterns not currently on the market," says Feldmeier. "By March of 2009 we were ready to conduct our first test run at a local tempering facility, and it was immediately deemed a success. Soon after we introduced the product to a select few distributors to get their opinions on colors and textures and earlier this year we decided that it was time to introduce this product worldwide." The product's official launch was in September. The Hollander Glass Group/SGT Tempering is one company that is providing tempering services for Wissmach. "They have been customers of ours in the art glass industry for decades and because of this we have developed a very close relationship with them," says Feldmeier. "The Hollander Group began tempering glass a couple of years ago and was willing to do much of our testing for us." Feldmeier notes that in addition to Hollander they have several other tempering partners, including the Glenney Glass Company, Swift Glass Company and Coral Decorative Products. With the new tempered art glass, Feldmeier says his company is focusing on all markets that require a tempered glass product, and those that would like a decorative glass that is temperable, such as residential doors, windows, shower doors and partitions, among others. At this time he says there are hundreds of clear patterned glasses that can be tempered, but not many colored tempered glasses on the market. "We are currently offering 11 colors and 18 textures in the temperable art glass line and are open to adding custom textures not currently in our line and adding colors derived from our current art glass line," he says. Feldmeier adds, "In addition to the solid cathedral colors that we now offer in the temperable art glass line our future plans are to mix two and three colors together in the same sheet of glass."



Also, new for Wissmach Glass Company at Glasstec 2014 is the introduction of Wissmach 96 in addition to the Wissmach 90 that was introduced in recent years for the fusing markets. Wissmach has a wide variety of colors and thicknesses available in both fusing lines.

Zircar Refractory Composites, Inc.

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About us

ZIRCAR Refractory Composites, Inc. produces a comprehensive line of advanced high performance ceramic-ceramic composite materials and related products. Our materials are used around the world in the most demanding thermal, structural and electrical insulating applications ranging in temperatures from 600°C(1112°F) to 1650°C(3002°F). For over thirty years, we have been a problem-solver working with our customers to resolve their thermal management problems. We have developed products that have become industry standards for induction melting, forging and heat treating applications, investment casting, glass processing, hot pressing, as well as many high temperature electrical applications.

Exhibitor profile

Zircar Refractory Composites, Inc.

Number of employees —

Business volume —

Export quota —

Founding year

Business segment

Product Overview

Zircar Refractory Composites, Inc.

01.02.01 Refractory materials

Product Details

Zircar Refractory Composites, Inc.

01.02.01 Refractory materials

ZRCI

ZRCI Increases capacity for die cut gaskets made from a variety of high temperature materials.

Die-Cut, Hand-Cut and Slit, Superior Quality Products Made From 100% Asbestos-Free, Non-Metallic Material. All Products Specifically Designed for High Temperature Industrial Solutions Up To 1650°C (3000°F) Small To Large Orders Manufactured In Any Size Or Shape To Exact Customer Requirements. Guaranteed Fast Turnaround, Personal Service, Very Competitive Prices With Proven Gasket-Cutting Experience. Die-cut Parts Provide An Economical Means Of Meeting Gasket, Spacer And Seal Requirements. Textile, Blankets, Papers and Various Composite Materials Are Available.

